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<b>Author(s)</b>	<b>Cheng, Wai-kei, Anthony.; 鄭偉琪.</b>
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M.B.A. DISSERTATION

on

BUYER-SELLER RELATIONSHIPS STRATEGIES  
IN THE HONG KONG MARKETS  
FOR ELECTRICAL AND MECHANICAL INDUSTRIAL PRODUCTS

By

CHENG Wai Kei, Anthony

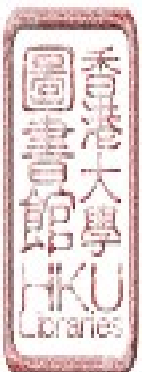
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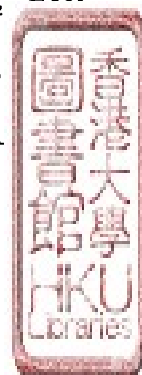


## ACKNOWLEDGEMENT

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In my first attempt at this formidable project, I am fortunate to have as my supervisor, **Mr. Roger Pyatt**, who being a member of the Hong Kong Branch of the International Marketing & Purchasing (IMP) Group, can share with me his valuable and extensive experience in the subject of "Interaction Approach". His constructive criticism of the whole project from the very beginning has been a major source of my inspiration. I am also grateful to **Mrs. Sally Steward**, who is one of the few pioneers in buyer/seller relationships in Hong Kong, for lending me her treasure of marketing journals, which contain much information on the IMP Group members' work.

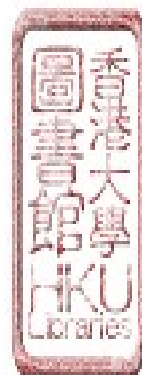
Although I have found my past experience useful when I had played both the buyer and seller roles as an Assistant Engineer (Contracts and Services) with the Hong Kong Electric Company, as an Industrial Sales Executive with the engineering arm of a major British "Hong" -- the Swire Engineering Company, and as a Senior Electrical and Mechanical (E&M) Consulting Engineer with the reputable Wong & Ouyang Architects and Engineers firm, I owe much of the contribution on the current marketing practice to the second group of people, the very busy senior executives in the industry, who have squeezed into their tight schedules completion of my lengthy and often sensitive questionnai



The sources of all materials quoted are duly acknowledged in the text. In particular, I like to express my gratitude to the University of Hong Kong and the IMP Group for their kind permissions to use their names in my correspondence with the public and to adopt the Interaction Theory.

The computer wizardry would be beyond my threshold of capability had it not been for the kind assistance of Messrs. John Whitman, S.L. Lee, and K.T. Wan, and in particular my co-worker, Mr. Chester Kwok, who have helped process the voluminous data collected with computers and shown me how to run the "Canonical Analysis" programmes.

CHENG, Wai-kei,  
31st August, 1992  
Repulse Bay.





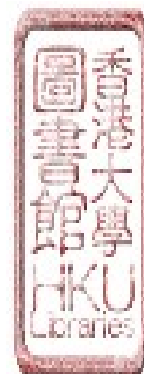
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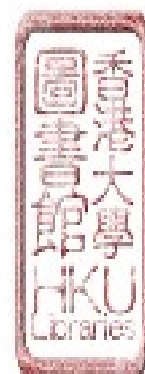
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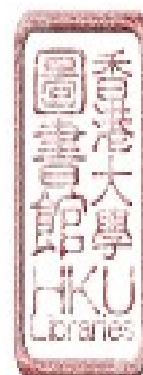
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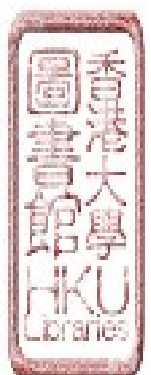
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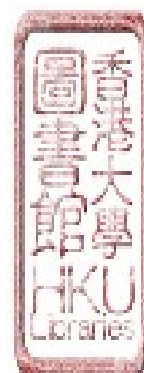
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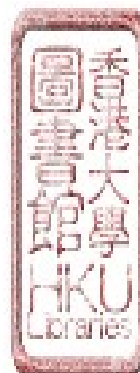
## ABSTRACT

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Traditional economic approach, used successfully in consumer marketing for strategy formulation, is an oversimplification when applied to the industrial sector.

Many organizational buying behaviour (OBB) models recognize the complex interplay of the multiple factors and attempt to overcome the unitary economic approach by including additional variables. However these models are not definitive as they only look internally into the company's marketing and buying processes, but ignore external influences and in particular, the relationship between constituent parties. Thus they do not replicate satisfactorily the complexity of organizational buying behaviour in the real world.

The International Marketing and Purchasing (IMP) Group, founded by researchers in UK and Europe in 1972 (Exh. XII, p.192), built their Model with due recognition of the mutual interdependence and integrated relationships between buyers and sellers. "The Group had adopted the Interaction Approach successfully to study industrial marketing and purchasing interactions in an international perspective with a broad scope of private, governmental and institutional segments ( R. Pyatt, 1991)."





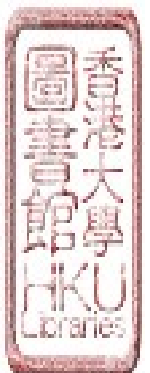
The Model (Exh. I, p.137) has been proven time and again a comprehensive and testable proposition: while most organizational buying behaviour models deal with discrete problems, the IMP Model has synthesized all isolated issues into a holistic picture.

The Model also provides a broader view of the dynamics of the industrial market, which dictates substantial investment in the relationships with the other party.

The IMP Group has specifically established that good relationships between buyers and sellers are essential for success in industrial market in the European culture. The original method of measurements of these variables is based on Burns and Stalker's total percentage scores, converted weighted score, and score charts (Fig. IV.1, p.80). It is D. Ford who first applied canonical and redundancy analyses successfully to the Interaction Model.

There is a general inadequacy of knowledge and analysis about the industrial buyer-seller relationship in Hong Kong, and a general absence of China trade within the IMP literature.

The majority of researches in Hong Kong are for consumer markets, with emphasis on tactical variables of product, price, promotion, and place; other long-term and less palpable relational variables serve as back-burners.



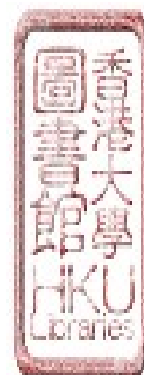
This project uses the Interaction Approach to study the Hong Kong Electrical and Mechanical Industry. It involves collecting data on seventy five items from a sample size of one hundred and sixty senior purchasing and marketing executives.

From these data, the relationships between industrial buyers' assessment of the suppliers' technical/commercial skills and a number of relational variables are examined. The results are then compared and contrasted with the suppliers' views.

These relational variables are market commitment, company commitment, adaptability, distance, conflict, market factor and market activity.

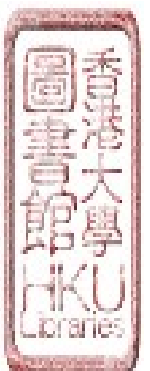
Adopting Ford's established framework based upon his role in the IMP group Europe-wide research, this project has achieved its aims:

1. to identify qualitatively businessmen's attitudes to marketing and purchasing relationships in the local E&M industry and found out the extent to which interactive marketing and purchasing is being applied, by examining the variation in perceived technical and commercial skills of suppliers, given the variation in the variables of commitments, adaptation, distance, conflict, market factor and market activity.



2. prove the existence of a gap between buyer/seller's views of the other party's needs, hence the need of strategic changes to bridge the gap.
3. collect statistics which may be useful for the purposes of management science study into contacts with persons and organizations in the region.
4. hopefully prove an important lesson for :-
  - i. existing practisers in the industry to revise their formulation of marketing strategy and re-direct resources to develop and cement relationship,
  - ii. new entrants to overcome some of the relational barriers inherent in the local E&M industry.

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## INTRODUCTION

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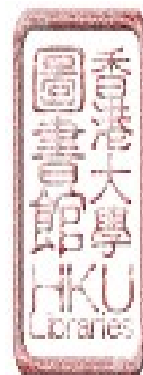
As a commercial executive in the early seventies, I had the sad experience of seeing much industrial marketing effort dissipated when unsuitable frameworks were used to develop or maintain business. Although convinced at that time certain determinants were missing in these frameworks for gaining an understanding of the organizational buying behaviour, I found no satisfactory model in the more advanced Western countries, where marketing strategy had already made inroad upon their corporate agenda. It was of course more appalling to know that Hong Kong businessmen still retained their crude method of financial goal-setting and snubbed marketing approaches.

The Chairman (1985/86) of the HK Institute of Marketing, Mr. Lawrence Pang once lamented the complacency and myopia of local businessmen :

"Hong Kong (has) already reached a high level of sophistication with respect to general business operation. However, the discipline of marketing has never been given the recognition and status it deserves....." (Yang et al, 1989).

Business strategy formulation remained in the stage of long-range planning (LRP) and was arrived at by the extrapolation of yearly financial performance. One major reason was penned down by Mr. R. Pyatt :-

".....marketing (is) not adopted whilst they (South-East Asia traders) enjoyed a price advantage ! "

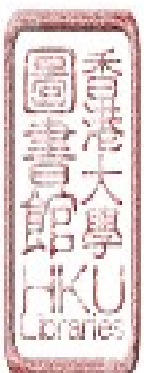


Commenting on the prevalent "seller's market" climate in the region, a Marketing Information Analyst of Dow Chemical (Hong Kong) inferred another cause : -

" ...the hectic and dramatic growth pattern of the Hong Kong market could absorb almost any product offered to the (chemical industry) customers. " (S.H. Lin, 1970)

The demand-pull from voracious consumers had direct impacts on the marketing tactics of various industrial sectors -- as we shall see later, the Electrical and Mechanical (E&M) sector is one of them. In the last decade, however, tide changes have been brought about by the burgeoning economy of the Pacific Rim, the rapid globalization of the local consumer market and the emergence of a marketing academic community.

Consequently, fierce competition of consumer goods ensues and professional marketers proliferate. Yet for many industrial sectors, little progress seems to have been taking place. Managerially naive engineering graduates lacking clear understanding of "the rules of game" continue to be employed as marketing executives. Their tasks, in face of intense international competition, will be daunting. While in consumer marketing, a magic formula of marketing mix can achieve rapid success, organizational buying processes call for time-consuming chemistry.

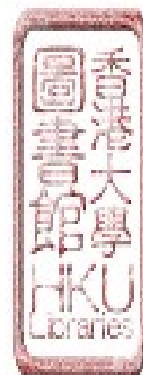


The Interaction Model has correctly addressed the other alternative variables, particularly the importance of relationship between the industrial buying and selling organizations. In Europe as well as in other South East Asia countries, researchers have found encouraging results to support the Interaction Approach.

The primary question that this paper attempts to deal with is: whether the model will apply equally well to a different culture like Hong Kong and a specific industry like the E&M sector.

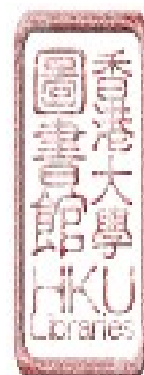
This thesis has been written as a modest contribution to the studies of industrial markets in Hong Kong. The first part is devoted to the three basic concepts of Interaction Approach Paradigm, Marketing Practices in the local E&M sector, and Canonical Analysis which are considered essential for a clear understanding of the ensuing discussions in Part II. Readers familiar with the topics may either skim through or skip the entire Part I.

As canonical correlation analysis has become a very powerful tool for the study of social science, not only the gist of the abstruse technique appears in the text, but also additional details and examples are extracted from authoritative publications and reproduced in the appendices to guide readers through the topic. For the more inquisitive minds, the bibliography at the end may prove a handy source.



Part II deals with the main body of the research, elaborating on the methodology and interpretation of data. A comparison with results of two similar researches, one in UK (Ford, 1978/90) and another in Hong Kong (Pang, 1980) is also presented and differences explained. The limitations of the study and its effects on strategy formulation in the marketing of E&M products are also briefly discussed.

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PART ONE

BASIC CONCEPTS





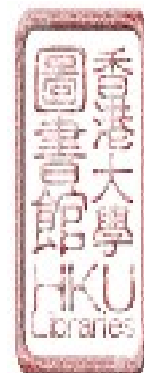
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"The exaggeration of the economic phase of human behaviour--the developed theories so effectively constructed by Adam Smith and his successors, depressed the interest in the specific social process within which economic factors are merely one phase."

C. Barnard (1938)

Marketing management emerged as a discipline independent of economics and other social sciences at the turn of the century (Sheth, 1988). Like other business oriented disciplines, it could not rid of its economic baggage initially. Earlier treatises --especially those of the USA--flourished on the consumer-market, and devoted the bulk of attention to commodity products, marketing functions and consumers' needs. Minds were so pre-occupied with transactional economic exchanges that relationship exchanges received but peripheral treatment.

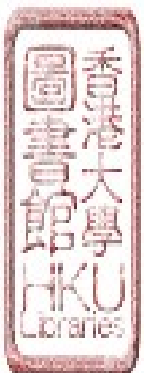
As early as the 1950s, behavioral and organizational theorists attempted to break away from such blinkered view and zoomed in the interactions between individual consumers and parties (Sheth, 1988); unfortunately relational variables (viz. power, conflict, interdependence etc.) were not so perceptible in product marketing as in service or industrial marketing.



T. Levitt's seminal paper, "Marketing Myopia", published in 1960, was said to have revolutionized marketing concepts by transcending the narrow production perspective into a more holistic approach.

In 1972, P. Kotler and S. Levy advocated the application of marketing theories to organizations beyond the business firms, arguing that marketing transactions in fact involved the exchanges of values (goods, services, money, time, energy, feelings) between any two parties (organizations and individuals). While Kotler's generic theory has broadened consumer marketing to include territories of not-for-profit organizations, his over-emphasis on the types of organizations has undermined his clairvoyance into the dimension of social exchanges.

Not until product and service marketing had been clearly differentiated were academicians first exposed to relational concept of intangibility, and issues outside the realm of economic exchanges. Marketers started to bluff about trendy terms of storability, transportability, institutionalization and mass marketing amid the ever-popular economic cliché.

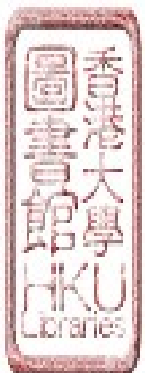


The lack of a sound relationship theory begot a dearth of interest in industrial marketing; few academicians had written specifically on the subject of industrial marketing, and fewer industrial firms expected their employees to have any relevant marketing qualifications #. The focus of marketing strategy was only successfully re-aligned during early 1970s, when the other crucial dimension -- the social or relationship exchanges, was enshrined by a research group (the International Marketing and Purchasing Group) into the marketing theory to complete the dynamics of marketing.

### 1.1 EARLY MARKETING CONCEPTS

The multifarious schools of marketing thoughts evolving out of other well-established disciplines placed their own distinct emphases on particular strategies (Table I.1). For example, the earliest one, Commodity School, represented by Charles Parlin (1912), Melvin Copeland, (1923), Aspinwall (1958) and Bucklin (1962), studied the types of controllable commodity factors (such as brand names, product characteristics) and the related consumer buying habits (such as consumers' profiles and responses) in juxtaposition. Based on consumers' needs and pre-purchase anxiety, they then classified commodities into convenience goods, shopping goods, and specialty goods.

# An interesting example is found in USA where only 2% of the executives is estimated to have a marketing background (Haas, 1989). In HK, the figure in the Electrical and Mechanical industry is probably smaller than 1% based on titles adorning the name cards of 120 senior executives.



In 1967, Kaish developed the commodity idea into the notion of cognitive dissonance; one of the justifications marketers put forward nowadays to secure a high advertising budget even for leading brands.

Some theorists like Arch Shaw (1912) pursued the functions of product marketing and distribution management. It is this Functional School which laid the foundation stone for modern industrial marketing theories.

The pioneers of Regional School, Reilly (1931) and Converse (1943,1949), analysed the "laws of gravitation", which expounded a phenomenon of consumers' inclination to shop at particular locations. Their follower, E. T. Grether (1950, 1983) applied this fundamental regional concept to international trading among countries of dissimilar production resources. Geographic market segmentation (Kahle, 1986) and choice of retailers' outlets are the strategic issues accredited to the Regional Approach.

A sea change of researchers' interests to behavioral, social and psychological influences in marketing gave birth to the Buyer Behaviour, the Macromarketing and the Activist Schools.

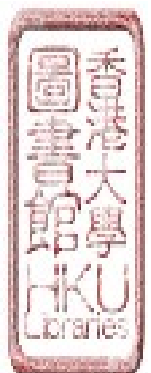
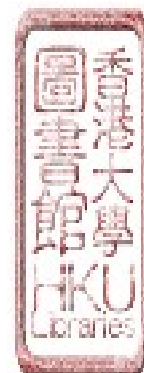


TABLE I.1 CLASSIFICATION OF MARKETING SCHOOLS

	Non-interactive Perspective	Interactive Perspective
Economic Perspective	Commodity Functional Regional	Institutional Functional Managerial
Non-economic Perspective	Buyer Behaviour Activist Macromarketing	Organizational Dynamics Systems (Social Exchanges)

SOURCE : SHETH (1988)

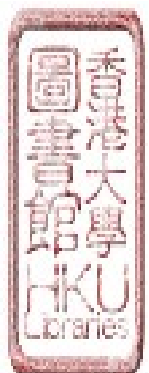
Buyer Behaviour School's vanguards, Katona (1953) and Richard Holton (1958) argued that the tripartite classification of goods was misleading. According to them, what really mattered was consumer's careful cost/benefit evaluation of extra search for alternatives. This School generated diverse topics like perceived risk (Bauer, 1960), information processing (Bettman, 1979), reference group influence (Bourne, 1965), social class (Martineau, 1958), involvement (Krugman, 1965), psychographics (Wells, 1975), attitudes (Hansen, 1972), situational influences (Belk, 1974), linkage between consumers' actions and marketers' activities (Holbrook & Howard, 1977), and combined marketer and consumer perspectives (Enis and Roering, 1980).



The Macromarketing School tracked the relationship between marketing and society; and the Activist School, gaining momentum since 1960s, tackled ad hoc industry/product and specific consumerism problems. These two Schools, as well as the Societal School, are still undergoing their development phases.

The spirit of the Functional School was revitalized when its direct descendants -- the Institutional, the Organizational and the Dynamics Schools extended the scope of analysis to organizations and their interactive components. The interplay of relationships between organizations involved, besides the simplistic economic elements, at least two more sophisticated subsystems :-

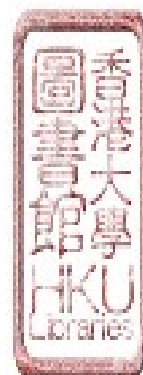
1. characteristics of different organizations, their structures, sizes and functions.
2. links between these organizations, power conflicts etc. These subsystems had influenced thinking behind the simple task, non-task and complex organizational buying models.



While the Buyer Behaviour and the Organizational Dynamics theorists wooed consumers and institutions respectively, the Managerial School theorists eyed the managerial roles in a marketing firm. Buzzwords such as marketing myopia, marketing concept, marketing mix, product life cycle were propounded by eminent writers like T. Levitt, N. Barden, J. McCarthy, J. Dean, J. Howard, and P. Kotler, who studied the organization-environment connection using the open-system approach. An organization was no longer considered in isolation of, but open to its social, political and economic surroundings.

## 1.2 SHETH'S MATRIX

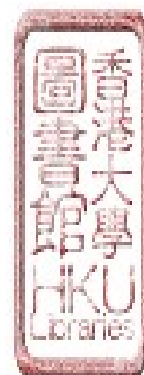
A comprehensive treatment of the twelve dominant marketing thoughts is found in Sheth's book "Marketing Theory: Evolution and Evaluation", which synthesizes all theories into a dichotomy --reproduced here as Table I.1. In a nutshell, along the economic dimension, the economic (Commodity, Functional, and Regional) schools concentrate on the economic aspects from a supplier's viewpoint whilst the non-economic (Buyer Behaviour, Macromarketing, and Activist) schools focus on market transactions from a buyer's viewpoint. Along the other dimension, the interactive (dyadic) perspective focuses on relationship exchanges, and according to Bagozzi and Zaltman (1978), best explains the industrial marketing process.



The non-interactive (unit) approach, on the other hand, assumes that only sellers are the active agents in exerting influence, by presenting the passive buyers with a stimulus (e.g. promotional activities). These same sellers expend much effort on charting consumers' response curves, and exhaust themselves with strategic issues ranging from policies on product, pricing, promotion and placement, to detailing product specialization, brand name, product quality, cost, technology leadership, service, price setting, financial leverage, push versus pull advertising, relationships with channels, principals, and local governments.

In order to reconcile the conflict between transactional marketing (Jackson, 1985) and relationship marketing (Berry, 1983), Uhl and Upah (1983) and Gronroos (1989) propose a continuum along the two extremes of traditional economic focus and relational interactive focus (Table I.2). Marketing strategy formulation becomes tantamount to a task of striking a balance between economic exchanges and social relationships.

To conclude his comparison of the twelve schools, Sheth evaluates each on the basis of its structure, specification, testability, empirical support, richness and simplicity. It is worth noting that Sheth's evaluation proves the theoretical soundness of the interactive dimension.





Alternative to Sheth's matrix, the myriad of marketing thoughts have been simply delimited in pairs of lesser complexity : production/consumer orientation, micro/macro, positive/normative, product/service, domestic/international, profit/non-profit and consumer/industrial marketing. Some of these bipolar terms have percolated into and re-enforced the concept of interaction approach.

### 1.3 INDUSTRIAL MARKETING

The highly popularized economic marketing theories above only give a road map on consumer areas, which does not serve well practitioners in the industrial marketing jungle, where "so much else" is at work. There is a need for a comprehensive model to define what is industrial marketing, and what goals in reality industrial marketing activities are required to achieve.

The Industrial Marketing Committee Review Board, USA, in 1954 published an article, "Fundamental Differences Between Industrial and Consumer Marketing," in the Journal of Marketing, citing the differences between consumer and industrial marketing as :-

- "1. Rational buying motives predominate in industrial (emotional in consumer) but their influence declines with the increase in product similarity,
2. Multiple buying responsibility is commonplace in the industrial field in the purchase of major items of equipment, and in the establishment of formulas for purchases of raw materials, and components parts.

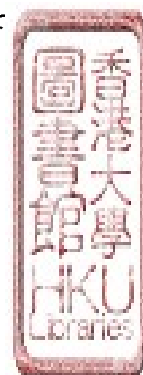


TABLE I.2

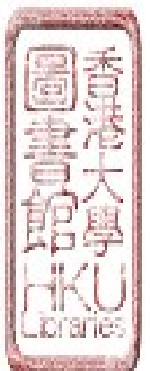
## THE MARKETING STRATEGY CONTINUUM

MARKETING STRATEGY CONTINUUM	TRANSACTION MARKETING :.....:	RELATIONSHIPS MARKETING
Dominating Marketing Function	Traditional Marketing Mix Dominated	Interactive Marketing Dominated*
Quality Dimens'n Important for A Competitive Advantages	Output-related Technical Quality Dominating	Process-related Functional Quality Dominating
Price Sensitivity	Consumers Very Price Sensitive	Consumers Much Less Price Sensitive
Interface Between Marketing and Other Functions e.g. Organizational Behaviour/Personal	Limited or Non-existent Interface; or Of No Significant Strategic Importance	Substantial Interface of Strategic Importance
Typical Marketing Situations Continuum	Consumer Consumer Packaged Durables Goods Marketing Marketing	Industrial Services Goods Marketing

\* but supported by traditional marketing mix elements

\*\* provided that the technical quality is at an acceptable level

Source : Christian Gronroos (1989)



3. The channels of distribution for industrial goods are likely to be shorter than channels for consumer goods. There are fewer middlemen in the industrial chain and a much larger percentage of industrial goods is sold direct to the buyer in industrial marketing than the percentage sold direct to consumers in consumer marketing."

The differences are expanded and summarized by Reeder, Brierty and Reeder (1987) in a table, Table I.3.

Amongst other issues, the demarcation reveals the strong bargaining power of the industrial buyers. How the International Marketing and Purchasing (IMP) Group built their model around the revelation will be discussed in section 1.6 below.

Besides the IMP Group, M. Porter's masterpiece on "Competitive Strategy" (1980), also recognizes buyer/seller bargaining powers in a value-added chain as a couple of the four external driving forces which determine the nature of competition in an industry.

Two of Porter's three generic marketing strategies, differentiation and focus, although directed at the consumer market, have surprisingly much to do with relational variables. The description of Hong Kong E&M industry in Chapter II will therefore apply Porter's competitive perspective to show systematically some of these variables at work, and the concentration of bargaining powers in the few purchasers and suppliers in the value chains or value networks.

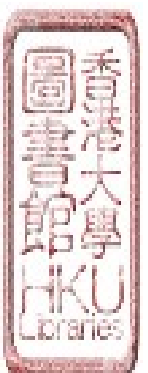


TABLE I.3                      INDUSTRIAL VS CONSUMER MARKETING  
   AREA OF DIFFERENCES

	INDUSTRIAL MARKETS	CONSUMER MARKETS
Market structure	Geographically concentrated Relatively few identifiable buyers Oligopolistic competition	Geographically dispersed Mass Markets of individuals Monopolistic competition
Products	Derived demand Technical complexity Customized Service, delivery and availability very important High durability Long manufacturing cycle	Direct demand  Standardized Service, delivery and availability less important
Buyer behaviour	Functional involvement Rational/task motives predominate Technical expertise Interpersonal Rel'nship stable & long-term	Family involvement/roles Social/Psychological motives predominate Less tech. expertise Impersonal rel'nship Reciprocity
Decision making	Distinct, observable stages	Unobservable, mental stages
Distribution Channel	Shorter, more direct, fewer linkages	Indirect, multiple stages
Promotion	Emphasis on personal selling	Emphasis on advertising
Price	Competitive bidding Negotiating on complex purchases List prices on standard items	List prices

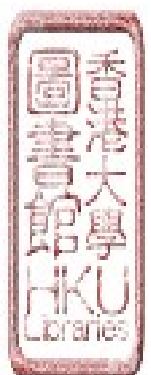
Source: Reeder, Brierty and Reeder (1987)



#### 1.4 TRADITIONAL ECONOMIC VIEWS

Traditional economic approach has its roots deep in consumer marketing and if applied to the industrial sector is pilloried with an economic yoke. Some critics name four main burdens : -

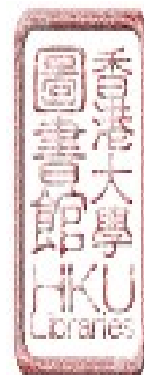
1. Its focus on short term; concerning itself about single discrete transactions and short-term issues such as monetary gain while ignoring non-quantitative long-term and strategic benefits, e.g. access to market or to new technology.
2. Its means to achieve ends being heavily product-oriented; emphasizing mainly on four Ps (product, price, place, and promotion) and disregarding relational variables, such as dependency and commitment (Beier and Stern, 1969).
3. Its presumption of buyers' passivity; in industrial market, buyers being both active in seeking new product and more knowledgeable about their own needs.
4. Its vague linkage with organizational resources; strategic allocation of resource to achieve commitments to both market and customers, and organizational fit often appearing as dotted ideas.



## 1.5 ORGANIZATIONAL BUYING BEHAVIOUR MODELS

Organizational buying behaviour (OBB) is predictably less romantic than consumer buying behaviour in that :-

1. more professional people with different roles and criteria are involved. Roles inside the decision making unit (DMU) are : policy makers, purchasers, deciders, technologists, influencers, gatekeepers, and users (Klass, 1961; Hill, 1972). Priority varies from price, quality, delivery, service, payment terms, durability.
2. consumers are emotional and irrational, but industrial buyers will be influenced by multiple variables contained in the task, non-task and complex multi-disciplinary models.
3. longer time, more technical, factual information, evaluation and carefully studied opinions are required to remove uncertainty of performance, to reduce vulnerability, and to exercise buyers' bargaining powers.
4. greater time-lag between marketing effort and response aggravates the difficulty to research.
5. problems of switching costs, resources allocation to response, adaptation, and customerization diverge different organizations,



6. greater complexity in the adoption of a universal approach in international programme (Levitt, 1983 and Sheth, 1986) means that the transfer of successful domestic marketing strategies in foreign markets, assuming converging commonality in communication, transport, etc. is doubtful.

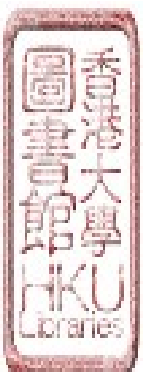
Many OBB models (Table I.4) recognize the complex interplay of the multitudinous factors and attempt to overcome the unitary economic approach by including additional variables in order to : -

1. establish general or broad principles, and not just operation procedures,
2. explain marketing phenomena and improve predictions about market responses,
3. identify and evaluate the need of information,
4. analyse and interpret information important to strategy formulation and implementation.

Two of these complex OBB models will be outlined below : -

Sheth (1973) Model stipulates four categories of variables:-

1. the psychological world of the decision maker, his perception of sellers' ability to satisfy buyers' needs,
2. the production and company variables, time pressure, perceived risks, orientation, size, centralization and buyclass,



3. structure and methods for problem solving -- persuasion, bargaining, politicking, negotiation,
4. situation factors -- economic, political, conflict in expectation of suppliers, criteria, goals, decision making styles.

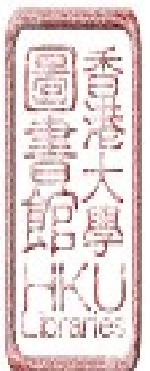
The Model is not definitive as it only looks internally into the company's buying process and ignores external influences, particularly the relationship between constituent parties.

TABLE I.4

SUMMARY OF MODELS OF  
ORGANIZATIONAL BUYING BEHAVIOUR

1. TASK MODELS	<ul style="list-style-type: none"> <li>i. Minimum Price Model</li> <li>ii. Lowest Total Cost Model</li> <li>iii. Rational Buyer Model</li> <li>iv. Materials Management Model</li> <li>v. Reciprocal Buying Model</li> <li>vi. Constrained Choice Model</li> </ul>
2. Nontask Models	<ul style="list-style-type: none"> <li>i. Ego Enhancement Model</li> <li>ii. Perceived Risk Model</li> <li>iii. Dyadic Interaction Model</li> <li>iv. Lateral Relationships Model</li> <li>v. Buying Influences Model</li> <li>vi. Diffusion Process Model</li> </ul>
3. Complex or Joint Models	<ul style="list-style-type: none"> <li>i. Decision Process Model</li> <li>ii. Competence Activity (COMPACT) Model</li> <li>iii. Buygrid Model</li> <li>iv. Sheth Industrial Buyer Behaviour Model</li> <li>v. Webster &amp; Wind Organizational Buying Behaviour Model</li> </ul>

Source : Haas, Robert W., 1989





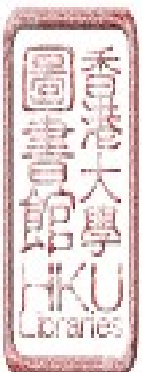
Webster & Wind Model (1972) was built around the following variables :

1. four kinds of determinants :
  - i. the general environments, e.g. legal, political,
  - ii. the organization, its characteristics, and climate (culture),
  - iii. the interpersonal influences and conflict of interests in the buying centre,
  - iv. the individual participation, personal training, experience, personality.
2. limit of human rationality in formal decision making process,
3. complex interaction between variables,
4. individual behaviour,

but the Model makes no reference to : -

1. the relationship between individuals,
2. the atmosphere of the relationship that may evolve between buyers and sellers.

Both Sheth and Webster/Wind Models concern themselves with most variables in industrial marketing, e.g. geographic and cultural distances, organization climate, the buying centre conflict, and individual perception, but both overlook process, atmosphere, and relationships between buyers and sellers. Thus they do not replicate satisfactorily the complexity of organizational buying behaviour in the real world.



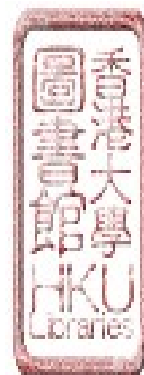
## 1.6 THE INTERACTION APPROACH

The traditional economic approach, focusing narrowly on commodity, function, and business management, oversimplifies marketing management to the design of constituent elements of marketing mix (four Ps popularized by McCarthy in 1983).

The International Marketing and Purchasing (IMP) Group, founded by researchers in UK and Europe in 1972, built their OBB model with due recognition of the mutual interdependence and integrated relationships between buyers and sellers. The Group had adopted the Interaction Approach successfully to study industrial marketing and purchasing interactions in an international perspective with a broad scope of private, governmental and institutional segments.

The IMP theory is the confluence of two very important concepts :-

1. the interorganization theory and associated marketing literatures, relying on behavioral sciences rather than economic sciences. Advocates of this theory (Valentine Ridgeway, 1957; Bruce Mallen, 1963 & 1967) believed in building distribution channel relationship using behavioral orientation, and studied relational variables such as internationalization of the firm, risk reduction, power, dependence, conflict, control and cooperation in channel; i.e. problems arising from a relationship network of organizations units.

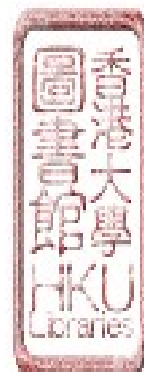


The inference is that industrial marketing can be best understood as an interactive process involving relations and effects among manufacturers, channel members, and consumers.

The concept of balance of power between buyers and sellers in a complex and seemingly contradicting setting of competitive and cooperative coalition is not dictated by economic considerations alone, but by both parties' self-interested expectation of the distribution channel.

2. the new institutional economic theory, which is outside marketing literature, as represented by Oliver Williamson. Williamson discovered : -

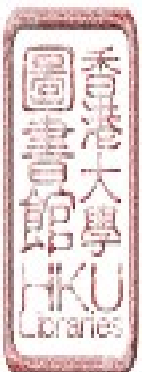
- i. the dependence of buy-or-made decision on environment complexity, uncertainty, organization characteristics, and transaction costs.
- ii. the buyers'/sellers' intention to seek after stability in business relationships and interdependence because of the high transaction costs in open markets, where buyers and sellers freely enter and leave.
- iii. internalization and mutual adaptation between units to facilitate business.



The Interaction Approach takes into account of firstly, all factors inside and outside an organization, and secondly, the interaction of these factors which are central to a company's competitive position. Its main differences to the classical "Marketing Mix" approach are its emphasis on the four thrusts of : -

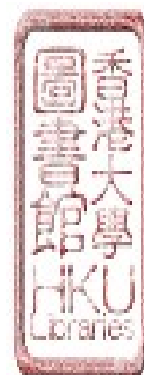
1. The importance of relationships between buyers and sellers and the involvement of relational variables (dependence, power, influence, conflict, reciprocity, exchange, intensity, and competition -- Bonoma, Bagozzi and Zaltman, 1978).

Such relationships are often complex, dynamic and long-term. They are complex because interaction is taking place not only between companies in different stages of economic and technological development but also between groups of functional specialists and individuals performing different roles and having conflicting objectives. They are dynamic because of the rapid rate of changes of economic factors, and of the power shift in favour of buyers in competitive markets, thus requiring significant adaptation by both parties.



They are long-run because buyers and sellers base their contracts on mutual trust rather than legal terms, and relationship usually requires a long lead-time before actual transactions take place. Once built up, relationship will be sustained by assessment of commitments before and after purchases.

2. **Similarity of tasks.** Not only one party (usually taken to be the seller), but either the buyer or the seller can be the active agent to search for trading partners, initiate purchasing activities, exert influence on the transaction and control the purchasing process. Both parties recognize that they face similar problems of high switching costs, benefits and risks involved in becoming dependent on the other. While the sellers assess the buyers' purchasing power, the buyers will also evaluate a suppliers' technical skills and manufacturing facilities which the buyers can exploit,
3. **Relative stability** of industrial market structures, where movements of buyers/sellers are transparent and not opaque to competitors. Interdependence and interlocking of organizations is the norm. Long-term benefits are achieved by "progressive adaptation" to or acceptance of the other party's way of doing business.



Firms' objectives are far more than short-term e.g. cost reduction. Links become institutionalized through adaptation and role expectations that the other party will perform accordingly,

4. **Distances among Nations.** The universal international marketing approach is redressed. The rifts in culture technology, time, geography and social systems are acknowledged. Picking up this idea, Kotler (1986) and Wind (1986) suggest a contingency framework which identifies situations where either standardization or customization will reign supreme.

Based on the Interaction Approach, Gronroos (1989) defines industrial marketing as activities "to establish, maintain, enhance and commercialize long term relationships, so that the objectives of the parties involved are met. This is done by a mutual exchange and fulfillment of promises." Gronroos locates industrial marketing at the far end of the marketing strategy continuum of transaction and relationship exchange, next to service marketing (Table I.2).

#### 1.7 THE INTERACTION MODEL

The Model, listing five marketing variables alternative to the four Ps theory, is depicted by Hankansson in Table I.5. The interaction variables to be analysed in the industrial market appear under four basic subsystems : -

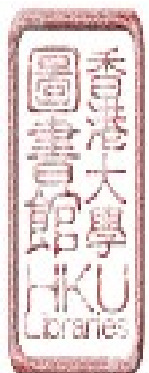


TABLE I.5

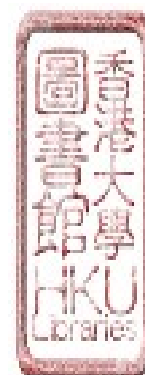
## THE INTERACTION FRAMEWORK

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3. THE INTERACTION ENVIRONMENT		
<ul style="list-style-type: none"> <li>* market structure</li> <li>* Dynamism</li> <li>* Internationalization of Market</li> <li>* Social system</li> </ul>		
2. SUPPLIER "A"		2. CUSTOMER "B"
Supply Side		Demand Side
ORGANIZATION	1. INTERACTION PROCESS OF EXCHANGES	ORGANIZATION
<ul style="list-style-type: none"> <li>* Structure</li> <li>* Technology</li> <li>* Experience</li> <li>* Resources</li> <li>* Strategy</li> </ul>	ELEMENTS <ul style="list-style-type: none"> <li>* Products/services</li> <li>* Financial</li> <li>* Information</li> <li>* Social Values</li> </ul>	<ul style="list-style-type: none"> <li>* Structure</li> <li>* Technology</li> <li>* Experience</li> <li>* Resources</li> <li>* Strategy</li> </ul>
INDIVIDUAL	MECHANISMS	INDIVIDUAL
<ul style="list-style-type: none"> <li>* Aims</li> <li>* Experience</li> <li>* Resources</li> </ul>	<ul style="list-style-type: none"> <li>* Adaptations</li> <li>* Personal Contact Patterns</li> </ul>	<ul style="list-style-type: none"> <li>* Aims</li> <li>* Experience</li> <li>* Resources</li> </ul>
4. THE ATMOSPHERE		
<ul style="list-style-type: none"> <li>* Power/Dependence</li> <li>* Co-operation</li> <li>* Social Distance</li> </ul>		

---

Source : Hakansson et al (1982)



1. the "elements and process of interaction"

- i. product or service exchange,
- ii. financial exchange; as an indicator of the economic importance of the relationship,
- iii. information exchange; content (financial or technical), media of communication (personal contact or other means), degree of formality,
- iv. social value exchange; to reduce uncertainties. Values include trust, integrity, understanding, flexibility, formalization, linking etc.

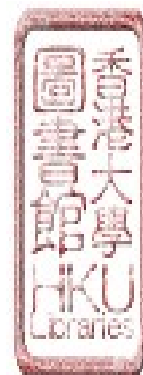
2. the "parties" involved : organization and individual

ORGANIZATION

- i. relative organizational size, power, structure and strategy,
- ii. technical issues, e.g. self- or highly dependent, product features, manufacturing processes,
- iii. organizational experience inside or outside the relationship,
- iv. available resources,

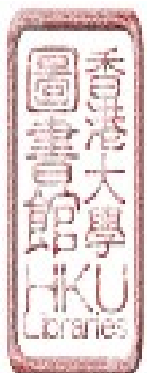
INDIVIDUAL

- v. motivations (Walker, 1977)
  - a. salesperson's personality, attitudes, education, experience, intelligence, perception, aptitude, trait and aims.





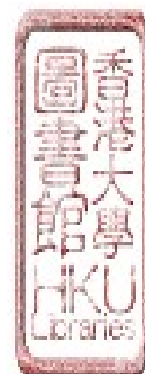
- b. compensation, incentives,
  - c. psychological motives, recognition, promotion opportunity,
  - d. organizational and managerial factors
    - staff selection, training and supervision.
- vii. the number and types of people at different levels in the hierarchy,
- 3. the "environment" within which the interaction takes place: -
  - i. market structure, e.g. concentration of buyers and sellers, number of relationships and any international aspects,
  - ii. dynamism; rate of changes of structure, technology, competition etc.,
  - iii. position in the channel of distribution,
  - iv. the social system, real and perceived barriers to trade between companies within the same country or in different countries.
- 4. the atmosphere affecting and affected by the interaction: -
  - i. perceived power/dependence,
  - ii. degrees of conflict or cooperation,
  - iii. social distance.



David Ford (1980), a veteran on Interaction Approach, observes that both buyers/sellers set out to : -

1. establish contacts with and understand the other party; he lists the obstacles as social, geographical, cultural, time and technological distances,
2. build up relationship through progressive adaptation, customization, commitment and mutual trust. Both parties become more willing to invest time/resources in their dealings with the other party,
3. maintain existing interaction, although the buyers through multi-sourcing can have the advantages of more viewpoints of information and price, they are reluctant to change. At the same time, the closeness to buyers gives sellers inside information, thus an advantage over their competitors.
4. enhance ongoing relationships.

D. Ford then delineates the development of buyer/seller relationship into five stages and studies the changes of the relational variables during each stage (Table I.6).



## 1.8 EVALUATION OF THE INTERACTION APPROACH

The Model is a comprehensive and testable proposition. While most OBB models deal with discrete problems, the IMP Model has synthesized all isolated issues into a holistic picture.

The Model has been used to both describe and predict industrial transactions within their peculiarities of high technology, financial dependence, extensive involvement, interchange over long time, buyers' rationality, and reciprocal trading. It is worth noting that the Model brings out the management, dynamism and the simultaneous existence of the variables. Each of the variables demands management's attention and competes for resources, yet they are so interrelated that one solution may lead to another problem. Therefore constant surveillance of the market must be emphasized. The Model also provides a broader view of the dynamics of the whole market, which requires investment in the relationships with other parties.

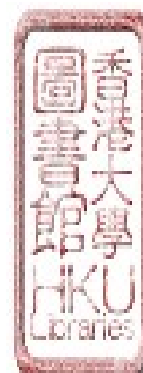
Some strategists consider relationship a competitive platform on top of which to design their marketing mix. They argue that by developing and maintaining an extensive interpersonal network, a company can reduce vulnerability, accelerate organization learning to outpace and devalue competitors' economic advantages. Others consider relationship a cornerstone of industrial market success.



TABLE I.6 THE DEVELOPMENT OF BUYER-SELLER RELATIONSHIPS IN INDUSTRIAL MARKETS--SUMMARY

1 Pre- relation- ship stage	2 Early stage	3 Development stage	4 Long-term stage	5 Final stage
Evaluation of potent- ial seller	Negotiation of sample delivery	Contract signed	Repeated purchases/ deliveries	Stable markets
Evaluation initiated and condition- ed by: -	Experience Low	Increased	High	Extensive Institution- alization
Experience with exist- ing sellers	Uncertainty High	Reduced	Minimum develop't of institution- alization	
Uncertainty & distance about potential suppliers	Distance High	Reduced	Minimum	Business based on Industry Codes of Practice
Effort of non-suppli- ers	Commitment Actual:low Perceived:	Increased demonstra-	Maximum reduced	
Other information sources	Adaptation High	Increasing formal	Extensive adaptations	
Overall policy decision	of manage- ment time Few cost- savings	and inform- al adapta- tions. Cost-savings increase	Cost-savings reduced by institutional- ization	
Zero Commitment				

Source: David Ford (1990)



Based on the additional interactive dimension, Sheth (1988) suggests that a sound general theory of marketing must include the following key points :-

- "1. Marketing is a study of the market behaviour rather than just the marketer's or the buyer's behaviour, (in R. Pyatt's (1991) words: - buyer and seller are two sides of the marketing equation)
2. Market behaviour is measured by a fundamental unit of analysis called the market transaction. It is a more specified type of interaction between two or more parties in which they take the roles of customers and suppliers.
3. We must focus on the dynamic nature of marketing. This can be achieved by understanding and explaining how repeated market transactions take place between two or more parties. Repeated transactions will shift the focus of marketing away from marketing equals selling towards the concept of relationship marketing.
4. Marketing as a study of market behaviour must include constraints on that behaviour. These constraints can reside with the buyers, with the suppliers, or with such external institutions as the government and other social stakeholders,
5. the *raison d'être* of marketing is to create and distribute values. This can be achieved by ensuring that the process of marketing results in a positive sum or win-win situation between two or more parties to a market transaction. It is safe to include function, perception, possession, time and place values that bridge the gap between suppliers' resources and consumers' needs ....."

Notice that the once-prevalent zero-sum military analogy of business strategy assumes a new tone of cooperation and even international concord under the Interaction Approach.

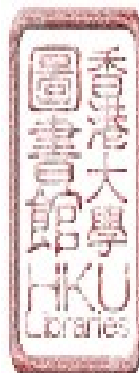


Gone are the days when companies could stand on their own to succeed, and increasing is their interdependence on upstream and downstream partners to form quasi- or real strategic alliances. K.S. Li, the helmsman of Cheung Kong, has conveyed his conviction of the predominance of relational variables over the economic elements to his heirs in one sentence, "If you can get a contract with a profit of 10%, go for 9%, or better still 8% at most, that way you build up and cement more good relationships and profits in the end (Ming Pao Daily, 23rd June, 1992)."

Two guidelines on the strategic use of the the interaction framework are quoted by the IMP Group as to :-

1. specify the type of interactive relationship the firm wishes to develop and the ways to implement them, e.g. exchange of technical and commercial information, personal and procedural adaptations, and other social exchanges,
2. formulate strategy based on both internal and external analysis of the macro environment-- dynamics, channel position, market structure, power, dependence, cooperation, trust, internationalization, and social system,

ooo000ooo



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"The Hong Kong success story is well known to you. Everywhere in this dynamic modern city are tall buildings, bright lights, and conspicuous evidence of the extraordinary prosperity that has been created."

The RT Hon Baroness Dunn, in her welcoming speech to His Excellency the Governor on 9 July 1992.

Electrical and mechanical (E&M) industry, better known to insiders as building services (BS) industry, has by now come to mean over fifty systems (Exhibit I), and extended to cover almost any building items flouted by architects or structural engineers. In spite of the rapid advancement in building technology and management, there is only a "patchy and incomprehensive literature (Walker, 1990)" available because of the fragmented nature of Property and Construction (P&C) Sector and its supporting E&M industry; therefore a study of the industry, which constitutes a modest 20% in value of the parent P&C Sector, has to draw heavily from piecemeal accounts appending to publications on the weightier architecture, civil engineering, and property development.

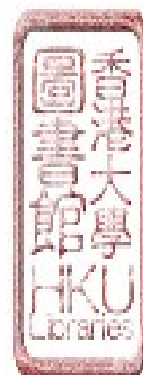


By fragmentation, M. Porter refers to an industry where "no firm has a significant market share and can strongly influence the industry outcome." Indeed, there were not any regulations on the licensing requirements of E&M contracting firms and workers until 1992; before then, both companies and individuals could join and leave the industry freely.

## 2.1 BRIEF HISTORY

Hongkong has experienced enviable economic growth over the last twenty-five years, with its Gross Domestic Product (GDP) and GDP per capita increasing annually at rates of 8% and 6% respectively, surpassing many of the developed countries. The dependence of the E&M industry on Hongkong's economy is not, as we have seen, so well documented as the P&C Sector, which has long been recognized as "a major contributor to Hongkong's comfortable business environments by the quality and efficiency of its urban infrastructure of private and public buildings-- commercial, industrial, institutional, and residential-- utilities, services and transportation (Walker, 1990)."

When the total value of work in the P&C Sector is estimated to be growing at 19% per annum over the last four years, its supporting E&M industry is growing at an even faster rate, rising from a mere 5% of the total construction costs to 20% in the last twenty years (HK Annual Digest of Statistics, 1991).





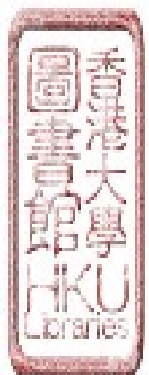
Part of the surge in value is due to the popularity of high-rise buildings and part, due to people's proclivity to pay more for sophisticated and technically advanced equipment to improve both their living and working conditions (Table II.1).

## 2.2 THE EARLY DAYS

Up to 1841, Hongkong was a barren island, inhabited by about six thousand Chinese villagers, one third being fishermen. The first embryonic industry to appear in 1844 was predictably ship-repairing.

These villagers lived in practically un-equipped owner-built houses (Chou, 1985). When trade with China started to flourish, Europeans used Hong Kong Island as one of their stop-overs to the provincial city, Canton, where foreigners' long stay was forbidden by the Chinese Government.

The first modern building on the Island was the Headquarters of Hongkong & Shanghai Bank, situated at the present Queen's Road site. Flanked by other equally magnificent developments belonging to Jardine or Swire, the Headquarters was among the first of a series of European style buildings to symbolize Hong Kong internationally. It took the architects and engineers, all imported from overseas, four years to realize their masterpiece in 1886.



The best available E&M services incorporated in the Headquarters included "battery-operated electric bells for all offices and rooms, a mechanical lift connecting the kitchen at basement with the top floor, hot and cold water systems for all bathrooms, and mains fire pipes for the full building (Walker, 1990)." The lift was mechanically operated and gas lighting adorned the Headquarters throughout, because the first electrical lift was yet to be invented in 1889 (Otis Centenary, 1989), and electricity did not come to the Hong Kong Island until 1889 and to the Kowloon Peninsula until 1901.

The Government's policy to carry out massive waterfront reclamation in Central in the years 1889 to 1904 was strongly supported and exploited by the two visionary co-founders of The Hongkong Land Investment and Agency Company Limited (now The Hongkong Land Co., Ltd.), Messrs. James Johnstone Keswick and Catchick Paul Chater, who formulated their invincible strategy of Central Development. Soon buildings with names of the King's, Prince's, York, Alexandra, Royal and St. George's popped up to shape the early business centre (Cameron, 1979). Today Hongkong Land's vantage position as the largest owner of the prestiged buildings in Central is still unchallenged.

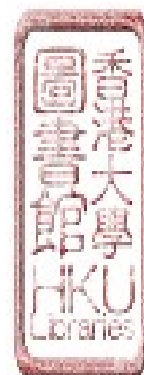


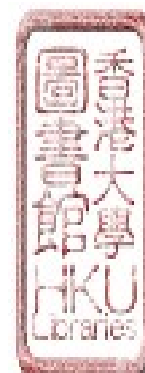
TABLE II.1 CONSUMER PRICE INDEX REPORT, 1991

Commodity Group	Group A		Group B	
Year 19xx	75	90	75	90
Food	56.6	41.2	47.8	35.34
<b>Housing</b>	<b>14.08</b>	<b>20.56</b>	<b>16.79</b>	<b>23.77</b>
Energy	3.39	3.18	2.71	2.36
Wine/tobacco	2.65	2.45	2.04	1.64
Dress	3.82	4.56	5.92	7.32
Durables	1.41	4.92	2.97	5.12
Miscell.	4.58	5.88	5.17	5.89
Transportation	4.36	7.20	5.11	7.57
Services	9.11	10.05	11.47	11.08

## FAMILY EXPENDITURE PATTERNS

	Group A		Group B	
YEAR	1975	1990	1975	1990
	\$400/1499	\$2500/9999	\$1500/2999	\$10000/17499

SOURCE : CENSUS & STATISTICS  
DEPARTMENT, HK

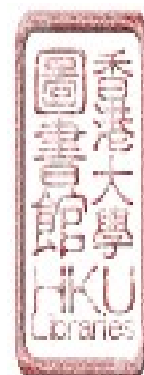


Towards the turn of the century, a local construction industry started to take shape. In 1889, Government felt the necessity to introduce its Buildings Ordinance. Some amendments were made both in 1903 to incorporate minimal building services and in November, 1935 to improve over lighting and ventilation (Chou, 1985).

### 2.3 1900 TO PRE SECOND WORLD WAR

When the four-storey Alexandra Building was completed in 1904 by Messrs. Palmer & Turner Architects, it had the first Otis electric lift and electric lights, both being installed by the Hongkong Electric Company, as competent E&M contractors were non-existent. Other contemporary office buildings in the Central developed for Hongkong Land were similarly equipped (Walker, 1990).

The year 1911 witnessed the inauguration of the first major British owned E&M trading/contracting firm, General Electric Company (HK). In the public sector, housing development for settling refugees from mainland China was initiated by the Government in 1900 during the Boxers Rebellion, and in the period from 1914 to 1918 during World War I. The influx of people occurred also at a time when various light industries emerged.

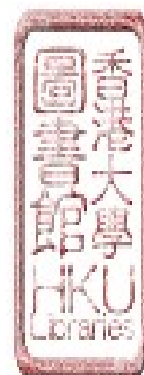


In 1933, Hongkong & Shanghai Bank assumed the role of innovation leader again by redeveloping its Headquarters to the tallest building in the Asia Pacific Region --this fine piece of architecture lasted until the mid-1980. The most technically advanced electro-mechanical equipment available included the first centralized air-conditioning system, innovative invisible panel-heating system, and the latest high-speed electric lifts. In view of the complexity envisaged, the Bank decided to use a very unusual approach--known today as "construction project management"--the whole contract was awarded to a firm of construction managers who would sub-let to smaller specialist subcontractors in each trade. Such approach was not practised in USA until 1960s, although USA was commonly believed to be the inventor of the system.

For the sake of grooming local experts, the Hong Kong Technical College began to admit engineering students in 1937, and by 1939 the first cohort of 15 civil engineering students were graduated. Year by year the curriculums were extended to cover most disciplines of the P&C sector.

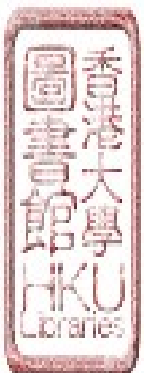
#### 2.4 POST SECOND WORLD WAR

The end of the Second World War directly and the fall of China into the communist regime indirectly fuelled the economic steam engine of Hongkong.



The boom in tourism and retail business spurred the building of more world-class hotels and commercial centres, while success in exports and the influx of capital and entrepreneurs from China stimulated the building of more factories, container terminals, communication services stations, all premises requiring modern E&M equipment to operate. Population rose from below two millions in mid 1940s to more than four millions in early 1970s, mainly consisting of refugees crossing the border to seek employment. (note : population reached five millions in 1980 and is near six millions by 1991). In 1954 after the devastating fire in Shek Kip Mei, the Housing Authority was established to ease the tremendous demand of accommodation. Because of land scarcity, high-rise buildings and housing estates became the logical solution.

In 1958, the British based E&M consulting firm, Messrs. J. Roger Preston, was appointed by the Hongkong Government to build the Kai Tak Airport. The firm returned in 1962 to establish its civil engineering branch to build the Mandarin Hotel for Hongkong Land, and became fully established by 1969 to take advantage of yet another building boom. The firm started with six UK non-resident partner but only one Hong Kong Chinese resident partner to look after its interests in Hong Kong, Singapore and South East Asia.

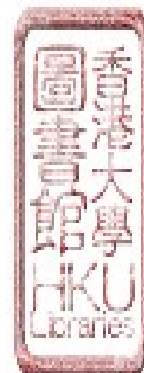


In the Government sector, a highly qualified Mr. G. J. Osborne was transferred for Somaliland Protectorate in 1960 to Honk Kong (he later became the Director of Electrical & Mechanical Services Department until his retirement in 1989) to design and coordinate the Queen Mary Hospital, then the largest hospital in the Commonwealth. He found the standards of the E&M industry was appalling (Osborne, 1984). The Department, he quoted, was referred to as "Gar-San-Che-Fong"; i.e. "Caroline Hill Garage", implying little or no specialization whatsoever except car repairing.

Up to the 1960s, E&M industry depended heavily on importing European designed equipment and expertise. By the 1970s, there was already a small cadre of local architects, contractors and engineers. Some architectural firms might only have a couple of E&M staff, but few even had their own E&M departments. The first fledgling Chinese consulting firm, Associated Consulting Engineers, was established by Samuel Wong in 1973 amid ridicules from the Westerner-predominant consultancy industry, to become one of the most successful practices in the nineties.

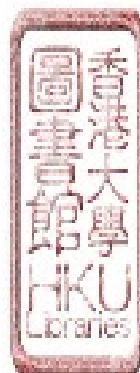
## 2.5 MODERN ERA

The period from 1970 to 1990 recorded extra bursts of building activities, and the concomitant emergence of powerful Chinese property developers like Sun Hung Kai and Cheung Kong.



The interlude of property slump occurred during 1982 to 1984, when traumatic political and economic uncertainty displaced not only a lot of employees from the P&C Sector, but also irrevocably Hongkong Land from its leadership position in property, with its awesome Chairman and Managing Director, Messrs. D. Newbigging and T. Bedford, ignominiously replaced.

In their earlier endeavours to fend off the Chinese's encroachment, Hong Kong Land and Jardine entered into interlocking holding arrangements and paid a cost later proved to be almost unbearable. Under such arrangements, the two above-named CEOs got their carte blanche to acquire interests in Hongkong Telephone company, Hongkong Electric Company, and partook in joint ventures with among others, the ill-fated Carrian. The deadly blow came shortly before the Prime Minister of United Kingdom, Mrs. Thatcher's visit to Beijing in 1982, when an over-optimistic Bedford bid for the Exchange Square site at an astronomical amount of HK\$ 4.76 billion, against HK \$1 billion from the shrewd second and third highest tenderers, Cheung Kong and Sun Hung Kai. Consequently, it took Hongkong Land about ten years to recover economically from the nightmarish incident.

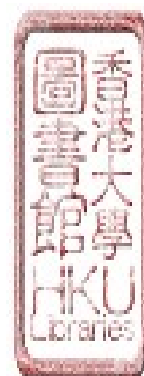




On the other hand, Mr. K. S. Li of Cheung Kong, who built the second largest property firm from scratch, was sold the first colonial trading "hong", Hutchison Whampoa, with its vast land banks at half their assets value. The reason for the major shareholder, HK Bank, to dump the "hong" to a Chinese firm was speculated to be the political aftermath of the Sino British Joint Declaration in 1983. Many senior Chinese employees also fled the confounded British "hongs" to become entrepreneurs of contracting or consulting businesses during the shake-out.

Over this era, the number of spectacular projects built in Hong Kong would humiliate many so-called developed countries. In 1970, Excelsior, the first hotel with 1000 rooms fetched universal admiration. In 1972, the cross-harbour tunnel provided the vital all-weather traffic link.

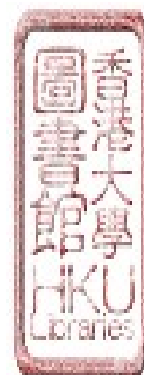
In 1973, the completion of Connaught Centre (now Jardine House), the first mega-high-rise building in Hong Kong, with 52 levels and 696 000 sq. ft. floor areas, galvanized into action Hongkong Land's colossal ten-year redevelopment plan for Central District. The imaginative Tai Koo Shing (a redevelopment of the Tai Koo Dockyard) began in 1975 with towers of 22- to 30-storey high to house some 45000 people in 11000 flats on a site of 53 acres.



By late 1970s, Hong Kong skyline began to take shape as we see it today. Optimism about Hong Kong's future lured Hongkong Land to bid Exchange Square at a price which, as related earlier, almost proved fatal to the Company.

In spite of the 1982 proclamation of the "Great Denouement of 1997", what had been committed had to proceed. In 1985, Hongkong & Shanghai Bank transmogrified its Headquarters to an "aero skyscraper". Designed by the world famous British architect, Norman Foster, and at a total cost of HK\$ 5 000 millions, it was perhaps one of the most expensive and technologically advanced buildings in the world. It had 62 escalators, 23 passenger lifts, 4 goods lifts, and 1 catering lift. Some record-breaking statistics are a length of 3000 km electrical communication cables, 19 500 kVA electricity capacity, 6 MW standby generating sets, and 12 500 kW air-conditioning capacity.

Landmark buildings such as Exchange Squares, Bank of China, Bank of Canton, Hongkong Convention and Exhibition Centres, Cultural Centre, Pacific Plaza, Hang Seng Bank, the hidden marvels of the Mass Transit Railway and the Eastern Harbour Tunnel were all completed within the 1980/90 period. All these projects called for sophisticated E&M plants and instrumentation for their operations.



In the five years up to 1990, Housing Authority has built 160000 public rental flats, 64000 flats under the home ownership and private sector participation schemes and another 6000 flats for possible rental or transfer to either scheme. The Authority is the estate manager of 600000 flats in 130 housing estates, and 1.16 million sq. m. commercial space including shops, market stalls, banks and restaurants.

The Environmental Protection Unit, set up in 1977, was upgraded to Agency in 1981, and eventually became an independent government department in 1986, to deal with the serious problems of pollutions, many of which are caused by E&M equipment inside buildings.

## 2.6 STRUCTURE

The construction project initiator, known as the client, may be a property developer or end-user. He will appoint an architectural office as his agent, to be in charge of the whole project and of any other appointed specialists, such as structural/civil engineers, E&M engineers and quantity surveyors. The client will often remain technically aloof and concern himself with issues of aesthetics and value-for-money, while entrusting the architect as well as his professional team to offer a total technical solution.



The architect, who must register with the Government, has legal obligations and will perform the task of a skilled intermediary. His duties are to prepare design briefs for client's agreement, building plans for Government's approval, specifications and tender documents for tender, and tender evaluation for the award of contracts. He also directs all other team members including all contractors to discharge their contractual duties properly.

Some examples for the client category are : -

1. Government Department -- Housing Authority, Electrical and Mechanical Services Department, Hospital Authority, Waterworks. Here the buyers of E&M equipment are motivated by usage.
2. Utilities -- China Light & Power, Hongkong Electric, Hongkong Telephone, Hongkong & China Gas. The buyers aim at production.
3. Private property developer -- Cheung Kong, New World, Hongkong Land, Swire Properties, Henderson, Sun Hung Kai. The buyers are interested in either immediate resale or long-term investment.
4. Factory and institutional owners -- electronic companies, textile companies, cargo terminal operators, universities, polytechnics, schools. The buyers' motivation is for both production and usage.

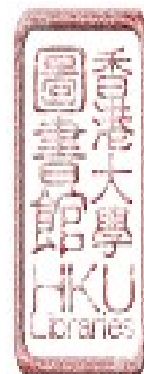
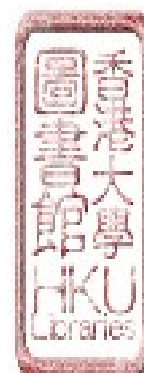


TABLE II.2 MARKET STRUCTURE OF E&amp;M INDUSTRY

PUBLIC SECTOR		PRIVATE SECTOR	
GOVERNMENT DEPARTMENTS	PUBLIC UTILITIES	PRIVATE PROPERTY DEVELOPERS	OWNERS OF FACTORIES
C L I E N T			
PROJECT MANAGER	ESTATE MANAGER	LEASE MANAGER	E&M REPAIR
ARCHITECT	STRUCTURE ENGINEERS	QUANTITY SURVEYOR	E&M ENGINEER
C O N S U L T	OTHER SPECIALISTS-- INTERIOR DECORATOR, ACOUSTICS CONSULTANT ETC.		
MAIN CONTRACTOR (BUILDER)	BUILDING SUB-CONTRACTORS	SPECIALIST S/CONTRACTORS	E&M SUB-CONTRACTOR
C O N T R A C T			
BUILDING MATERIAL SUPPLIERS	IMPORTERS, AGENCIES, TRADERS, WHOLESALEERS		E&M EQUIPMENT SUPPLIERS
S U P P L I E R			
	FACTORIES, EXPORTERS, ASSEMBLERS, FRANCHISERS, LICENSEES, JOINT VENTURES.		
M A N U F A C T			

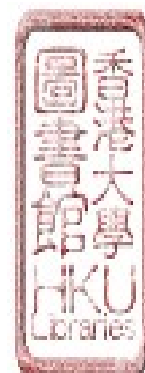


## 2.7 WORK SCHEDULE

A typical work schedule for a building project may be :

1. Design proposals (often a competition among several architectural firms).
2. Appointment of architects, and other team members.
3. Design brief for client's approval.
4. Detailed design and specification.
5. Tender documents, tendering and evaluation.
6. Tender negotiation and material selection.
7. Appointment of contractors.
8. Construction phase : site supervision, project coordination, installation, testing and commissioning.

Before 1970s, many of the E&M projects for Chinese clients were design-and-build. This means that the E&M contractors had all the responsibility of design, specification, purchase, installation and servicing. Few exceptions were the major projects where overseas designers were employed; but even then, many clients, the Chinese in particular, would influence the designers to award the E&M supply and/or installation contracts to their subsidiaries, or friendly companies, which were already short-listed to tender. Other tenderers were invited just to ensure that the eventual sweetheart contract would not be an exparte one.



After 1970s, design-and-build was still common among Chinese property owners who did not have in-house E&M departments for consulting and contracting. But if a bona fide tender was intended, the local practice followed essentially its British norm with perhaps some modifications to suit cultural differences and to favour long-standing relationships.

In the 1980s, not only contracting became more formalized, but also other building management approaches emerged in both UK and Hong Kong. "Management contracting" and "construction management" were once believed to give the builder a more active role in project design and management, and result in cheaper, faster and less problematic construction work. It turned out that when contractors were entrusted to mark their own examination papers, quality deteriorated to such an extent that the control power had to be reverted to architects for simple projects, or project managers for complex one (J. Chiu, 1991). The project manager, directly employed by the client, becomes the linchpin of the project, enabling the client to be more actively involved.

Consultancy practice also went through some major changes. Before 1980s, many firms used top-down management, with decisions made centrally by partners or associates.

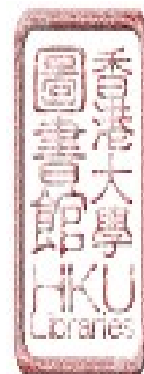
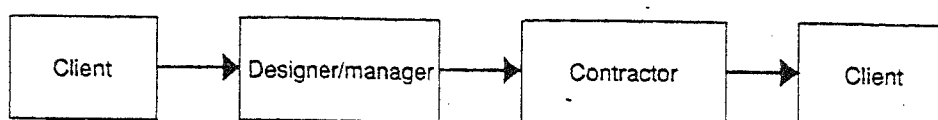
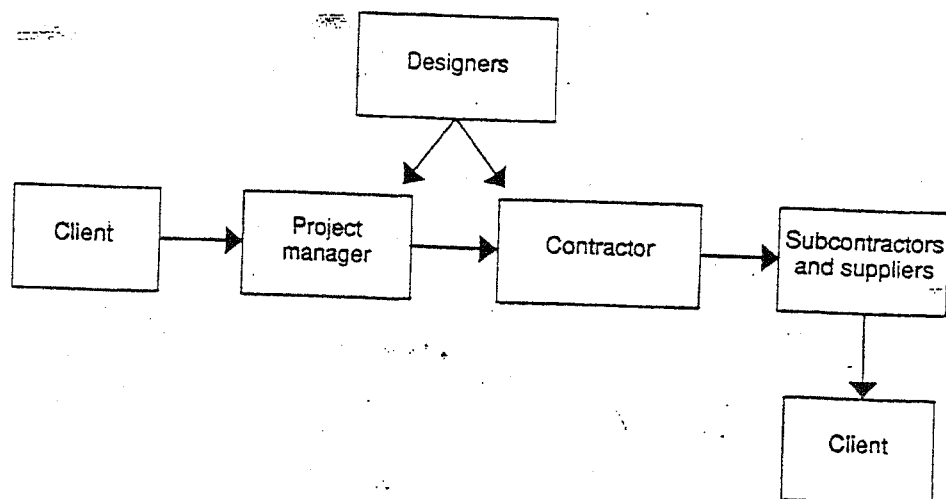


TABLE II.3 PROJECT MANAGEMENT ROLE

Formerly



Now



Source: J. Chiu, 1991

The eighties called for greater responsiveness to complex situations, and each project was tackled by an E&M team, led by a job captain who specializes in one of the categories of commercial, industrial, hotels, institutional and regional (mainly China) projects.

For Government projects, E&M contractors must first apply for inclusion into the Government's lists which categorize the work under about thirty types of installations. Under each category, there are usually two to three groups, each with its ceiling on the estimated contract amount.



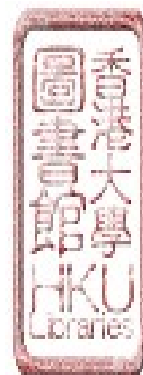


For example, under the air-conditioning category, group one contractors can only tender for work up to HK\$ 1.5 million while group two, for work of unlimited amount. Under the electrical category, group one can tender for HK\$ 0.4 million; group two, for HK\$ 1 million; and group three unlimited amount. There are at present over one hundred contractors under the two main categories. Many of these names overlap because most contractors operate in several disciplines.

A typical organization chart for a contracting company is shown in table II.4.

Out of the thirty-six hundred E&M contracting firms in 1990, only about a hundred are in the highest categories, capable of undertaking a direct subcontract with the main contractor. The input from these hundred firms to the contracted work can be quite small, and sometimes limits to material supply, site supervision and coordination only.

These firms may obtain products internally from their own trading divisions, or externally from local trading firms acting as agents for overseas manufacturers. Through the multi-level subcontracting system, the remaining three thousand smaller contracting firms merely provide subcontracting services in the form of "labour only", and are predominantly sole proprietorship or partnership.



The start-up costs of the consulting, contracting and trading firms are very low indeed. The key factor to a new venture will often be a good relationship with the developer or an influential person in the clients' organization. In a recent court case, Mr. Xu Jiatun, the defected head of the New China News Agency, for example, had allegedly helped Mr. Yat-chi Ng, a metal supplier with no experience in building projects, to get HK\$ 43 million tender from China Resources Holding Company (SCMP, May 1992).

## 2.8 SIZE OF THE INDUSTRY

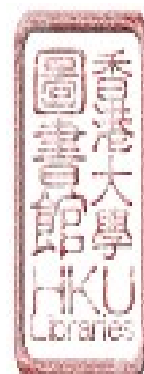
By 1989, the P&C Sector became a major employer, employing over 8% of the total labour force, and contributing some 24% to the local GDP, not to mention the other associated professional services and spin-off contributions (Walker, 1990).

TABLE II.4 ORGANIZATION CHART OF A CONTRACTING COMPANY

---

GENERAL MANAGER			
<u>PROJECT</u>	<u>PURCHASING</u>	<u>TENDER</u>	<u>ADMIN</u>
Construction	Requisition	Estimation	Accounting
Supervision	Purchase	Tendering	Personnel
Progress/ coordination	Delivery	Payments	Cost Control

---



In 1990, the P&C Industry completed one public sector flat every 13 minutes, or over 40,000 flats per annum, and about the same number in private sector. The stock of all buildings exceeded 100 million sq.m., half of which was housing, and the estimated value of all property was HK\$ 1,300 billions, excluding government buildings and other civil works such as roads, tunnels, reservoirs and port facilities. During 1980 to 1987, an average of 68% of the Gross Fixed Capital Formation (GFCF) was spent in the products of the P&C Sector. The corresponding value of E&M services was estimated to be varying from 4 to 20% of the total values of buildings, depending on types of building and their usage.

Furthermore, in 1991, P&C Sector represented over 45% of the stock market capitalization and 40% of its daily turnover. And 40% of the Government annual expenditure was on property in order to keep public services running.

## 2.9 MARKET SITUATIONS

The brief historical background outlined above provides the basis for further investigation into the E&M industry using Porter's competitive framework.

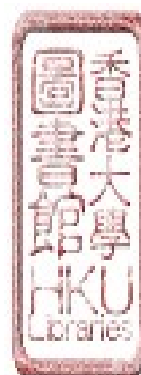


TABLE II.5 BREAKDOWN OF ECONOMIC SECTORS  
CONTRIBUTION TO GDP AVERAGE

PROPERTY/CONSTRUCTION		24.8%
Professional services	1.0%	
Building & Construction	5.9%	
Development/leasing	7.4%	
Ownership of premises	10.5%	
MANUFACTURING		22.3%
WHOLESALE, RETAIL, IMPORT EXPORT AND HOTEL		21.1%
OTHERS (e.g. Financing, communication etc.)		31.8%

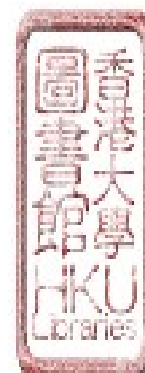
SOURCE : CENSUS & STATISTICS  
DEPARTMENT, HK (1991)

TABLE II.6 POPULATION BY TYPE OF HOUSING STOCK

YEAR	1976	1981	1986	1989
TYPE	%	%	%	%
HOUSING AUTHORITY	37.3	34.3	34.5	38.8
HOME OWNERSHIP	----	0.7	4.3	6.0
PRIVATE SECTOR	42.0	42.0	41.8	55.2
TEMPORARY	20.7	23.0	19.4	0
	100.0	100.0	100.0	100.0
	=====	=====	=====	=====

YEAR	1984	1988	1989
COST OF PRIVATE NEW BUILDINGS IN HK\$ BILLION	6.8	13.0	14.9

SOURCE: HK 1989 BYCENSUS HK  
IN FIGURES (1990)



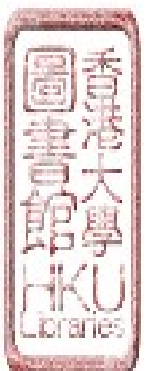
## 2.10 ENVIRONMENTS

E&M industry was primarily a "sellers' market" until the early eighties for two major reasons :

a. the shortage of materials and products immediately after the Second World War gave suppliers strong bargaining powers over purchasers, who in times of scarcity economies, literally had to beg suppliers for products when demand was growing at an exponential rate.

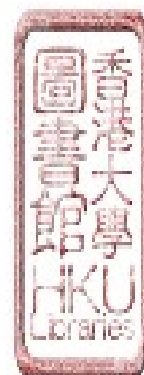
b. although boasted as a free port, Hong Kong was basically a British Colony. The multifarious social, political, and legal links with UK gave British companies an unfair "oligopolistic" competitive edge. Further more, the few British suppliers and developers knew one another well, could adopt collusion and earn unreasonably high profits from price manipulation, hoarding and assets appreciation.

There is nothing morally wrong with the oligopolistic squeeze when the E&M products purchased are of first-class quality, and when such investments bring Hong Kong's productivity and living standards to level up with the most industrialized countries. One must also admit that the P&C sector is a long-lead-time and high-risk industry. Development plans have to start years before an economic boom, and factor costs and selling prices are so dependent on economic performance that their fluctuations are inevitable.



The collapse of many firms in the P&C Sector during economic recessions perhaps justifies such profiteering business tactics.

Formal business practice in the E&M industry resembled in many ways the UK system. British "hongs" used to control the vital areas of the local economy and the British occupied nearly all the senior purchasing/designing posts in both private and public E&M sectors. Legally, E&M installations and products must comply with British specifications and standards. The local educational system and legislation, grafted on their British counterparts, had minimized British suppliers' problems of social, cultural, and technological distances. Consequently such distances became barriers to the local people who wished to join the power centre. Language distances experienced by the British in 1970s, when fugitive Chinese entrepreneurs either spoke mixed Cantonese/English or English with strong Shanghainese accents (Kay, 1976), no longer exist today when their westernized heirs succeed the thrones. The other hurdles of time and geographical distances had little meaning when lead-time for building projects could be as long as one year.

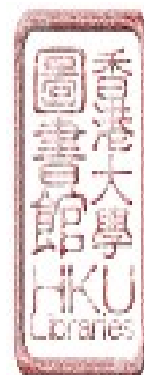


## 2.11 HYBRID NATURE OF INDUSTRIAL PRACTICE

British hegemonic influence can still be detected in many local business areas mainly because of the exploitable political powers. A vivid example of British sway is in the ex-governor, Sir Wilson's speech in London on 22 Jan 1992 to some investors, disclosing that, from 1977 to 1992, General Electric Company had sold to China Light & Power one billion pound sterling (HK\$ 14 bn) worth of electrical equipment.

The British Government in turn, also announced that in Hong Kong, assets under British control, management or ownership amounted to £ 27 bn (HK\$ 378 bn), and income derived from invisible trade (interest payments, dividends, tourism, banking, insurance, finance etc.) was £ 1 bn (HK\$ 14 bn) (SCMP 23/1/92). It is not surprising to hear the rumour that Sir Wilson was replaced by Patten because the former had not looked after British firms' interests in some construction tenders (a remark from the Omelco senior member, Allen Lee during his interview by a reporter from the HK Economic Journal on 2 July 1992).

Below the colonial veneer of professional practice is the substratum of Chinese personalism and pragmatism (G. Redding, 1990), hence the use of "Guanxi" to do business.



Alston (1989) translates the Chinese term "Guanxi" as "friendship with overtones of unlimited exchange of favors (favours)." According to him, "Guanxi" embraces at least the following characteristics: -

- "1. relationship is usually personal and has no group connotation, therefore it follows the persons from one company to another,
2. without the establishment of Guanxi relations, sellers will find buyers totally uninterested in their products,
3. Chinese buyers expect sellers from the more affluent countries to be magnanimous and give favour,
4. Personal ties and interests are often more important than organizational goals or legal standards."

G. Redding (1990) and M. Kay (1976) further observed that the Chinese executives regarded "face" most important. Kay quoted that in the seventies it was necessary to avoid direct confrontation with and give out "tea money" to people in the decision-making-unit (DMU) to ensure transactions properly carried out.

Such illicit payments did not vanish even after the establishment of the Independent Commission Against Corruption (ICAC) in 1973. Some major cases investigated by ICAC in 1980s involved very senior staff members in the two power companies, in the big "hongs" like Jardine, Swire, Gilman, Hutchison Whampoa, and New World Property Development.

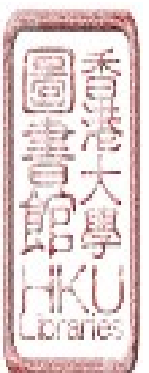
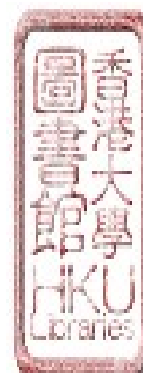




TABLE II.7 GROWTH OF EXPORT/IMPORT IN MILLION POUND STERLING			
	HK/UK	UK/HK	UK/CHINA
1980	849	559	169
1989	2000	1100	417.9
Source : HK Economic Journal Monthly, 168 issue, 3/91			

TABLE II.8 BRITISH CAPITAL INVESTMENT IN HK ( cf. exhibit on market capitalization )			
	capitalization as at 31/12/90		% of total
Jardine	HK\$	17,764 m	
HK Land		18,485	
Jardine Strat		10,562	10.43
Dairy Farm		17,324	
Mandarin Oriental		2,940	
Jardine Int'l		1,049	
Swire Trading		22,133	
HAECO		2,703	6.85
Cathay Pacific		19,908	
HK Telecom		69,147	10.65
total	HK\$	182,015m	27.93%

Source : HK Economic Journal  
Monthly, 168 issue, 3/91



Many businessmen still believe that bribery should be tolerated to stimulate economic growth, and that the present government policy actually slows down the tempo of economic activities. Others agree with Edward Heath, the ex-British Prime Minister when he told a Rome Conference in 1975, "What characterized early capitalism was the ruthlessness of its acquisitive instinct. In the stampede to make sudden and vast fortunes, other values were trampled underfoot....."

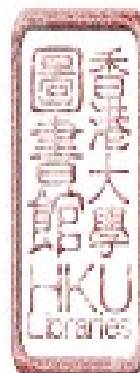
## 2.12 PURCHASERS

Tenacious purchasers the world over will questioning every item that goes into their buildings and their criteria for selection of E&M products are probably universal #. Peculiar to Hong Kong is the smaller business circle with few developers and few suppliers, a high percentage of them being family businesses which are characterized by paternalism, nepotism and networking (G. Redding 1990).

Besides the social, political and legal factors, British products are preferred for the following additional reasons :-

1. British consulting, contracting and trading firms are the first ones here. Their scale of operation, experience and resources all grow with Hongkong economy,

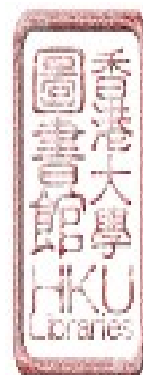
# A typical list may include product design, safety, reliability, durability, noise-, water- and air- pollutions, technological standards, efficiency, convenience, price, parts availability, adaptation, suppliers' reputation, performance, service capability, delivery, organization fit.



2. These firms also have established reputations and long-term relationships with the Government and property owners,
3. These firms are more conversant with British procedures, specifications, and standards than other foreign firms,
4. All chartered engineers, irrespective of their ethnic backgrounds, are necessarily brought up under the British education and training systems to obtain their qualifications. Naturally, they are more at ease with British products. It is therefore not a coincidence that Hong Kong has the highest concentration of overseas corporate members of the Institution of Electrical Engineers, UK.

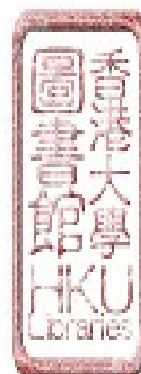
In the main, UK products are given preferential treatment, even though purchasing strategies may still be grouped under three headings according to buyers' motives and constraints: -

1. **Government and other public utilities.** The purchasing processes for these highly bureaucratic organizations are much formalized and decisions are made by committees comprising both the high-level management and technical personnel, to ensure rationality and systematization, with the side effects of suppressing creativity and flexibility.



One will find that firstly standard equipment specifications prepared by the engineering department will be based on UK systems. Secondly, engineering staff by indoctrination are more conservative, trying to avoid risks of failure and shock from severance of amiable relationship. Thirdly, staff are anxious to minimize switching costs incurred by information searching, negotiation, re-training, modification of existing plant and products. Although price-sensitive, staff will stick with British products, even if certain products may have already been overtaken by new inventions elsewhere. In this way they avoid running risks of contravening the British codes of practice, regulations and even local laws which were passed in 1911 but have not yet been revised. Specifiers have stubbornly resisted the use of earthed leakage circuit breakers, unvented water heaters and high pressure sodium lamps for some ten years until their UK counterparts passed new laws and codes of practice in 1990, forcing the Hong Kong Government to follow suit in 1992 #.

# New Electricity Ordinances and Codes of Practices become effective in May 1992.

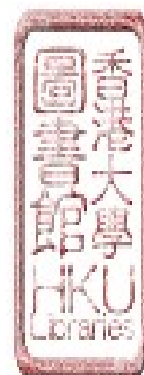


2. The private property-investment segment. Before the seventies, the British "hongs" dominated the development of prestiged hotels, commercial and residential buildings for rental purposes. They integrated forward to become hoteliers, merchants and landlords, and backward to become contractors and suppliers, eventually turning sprawling conglomerates.

In the late seventies, Chinese entrepreneurs emulated them and competed for this premium market. Typical British firms under this segment are Hongkong Land, Hongkong & Shanghai Hotel, and Wharf with Chinese firms Hang Lung and Hysan Development Companies trailing behind. Some representative projects are Connaught Centre, Exchange Square, Repulse Bay Hotel, Peninsula Hotel, the container and air-cargo terminals.

Owners under this category are performance oriented, less price-sensitive and more willing to use non-UK but proven innovative E&M products, particularly when their subsidiaries are local agents for these products. The extra costs are considered less important because :

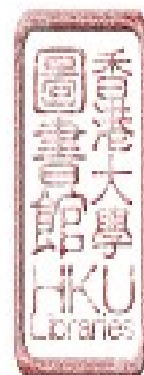
- i. the E&M contracts constitute but a small part of the total construction costs, 10% to 20%,
- ii. the extra costs can be easily passed onto price-insensitive end-users,



iii. safety, reliability, durability and the developers' international prestiges outweigh small cost increase.

Innovative E&M products such as USA-made armour-clad busbars and Australia-made radio-active lightning prevention system were first introduced to Hong Kong in this segment.

3. **The private property-development segment.** As at 1991, about eleven property developers dominate the market. Ranking according to the sizes of their land banks are: Hutchison Whampoa, Cheung Kong, Sun hung Kai, New World, Sino, Swire, Hang Lung, Hongkong Land, Henderson, Allied Property, Great Eagle (Architect, 1/1991). Most companies take part in the build-and-sell activities, and have Chinese chief executive officers (CEOs) who are very pragmatic and price sensitive. As the end-products will be sold, qualities such as durability, maintainability and efficiency of E&M products receive lesser weighting as in the investment segment. Even well-intention developers may fall victim to quality-insensitive workers so used to shoddiness in this segment. A case in point is the Discovery Bay Development in 1990 where a dozen new houses were literally turned into electrified cages by faulty wires.



There is no denying that poor quality was the norm before the 1970s in this arena, because corruption within the Government and utility companies rendered enforcement of statutory regulations impossible. Consumerism was also weak, as the Chinese believe in "social harmony, moderation, 'face' and the concept of pao (retribution) (Yang, et al, 1989, p. 336)." Eager to own some properties, local Chinese lacked either the technical knowledge or the courage to complain against the financially mighty.

The E&M consultants employed by the clients from the last segment are also mainly Chinese. The clients, the consultants and the E&M contractors will find nothing sinister to accept less expensive alternatives as they all will benefit from :-

- i. substitution by cheaper products,
- ii. reduced suppliers' power by alternative sourcing,
- iii. increase suppliers' dependence on purchaser's business.



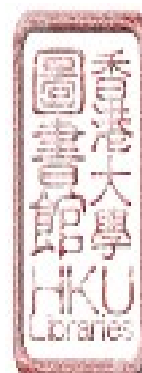
TABLE II.9 ORIGINS OF E&M PRODUCTS

Country	MANUFACTURER/BRAND
UK	GEC, BICC, MK, THORN, DELTA, BRUSH, AEI, AWCO, REYROLL PARSONS, HAWKER SIDLEY, YORK, PIRELLI,
USA	GE, CARRIER, TRANE, OTIS, SQUARE D, WESTINGHOUSE,
JAPAN	mitsubishi, hitachi, toshiba, nippon
W. EUROPE	ASEA, BROWN BOVERI, SCHINDLER,
AUSTRALIA	CLIPSAL, EVERHOT,
S. KOREA	GOLDSTAR,

Source: PRODUCT FINDER 90/91  
TREND PUBLISHING, HK

### 2.13 SUPPLIERS

Besides legal and political factors, a reason for the scarcity of E&M products from other industrialized countries (Table II.9) may be the small market size relative to their home markets. In halcyon days, it was impossible to convince non-British factory managers to customize their product lines. An anecdote may sum up such attitude.

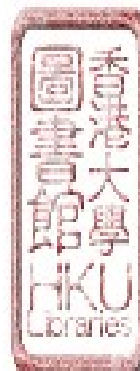




In 1975, when the International Division of General Electric (USA) under the "bristly" Welsh tried to export to Hong Kong, Mr. M. Newson, the managing director of its local agent, Swire Engineering, requested the Electric Motor Factory Manager to adapt its products to British Standard Specifications. The Factory Manager bluntly declined because he would not modify his assembly lines, of which over 95% production was sold in USA.

With market globalization forcing competitors to achieve greater economies of scale by developing new markets however, United Kingdom has receded from the 3rd in 1970s to the 8th trading partner of Hong Kong in 1992 mainly because : -

1. UK has been overtaken by other countries in technology. For example, USA surpasses UK in the fields of air-conditioning and fire services. Once relationship in a product line has been established, networking at top level facilitates business in other branches of E&M products.



2. quality of UK products and services in 1970s had declined owing to labour disputes, strikes and understocking. A media image of uncertain delivery and reliability of industrial products affected purchasers' confidence when rising consumerism put emphasis on end-users' satisfaction and developers' reputation. Buyers, though reluctant to incur switching costs, were forced to seek alternative sources in order to reduce absolute dependence on UK products and to minimize uncertainty.
3. technical harmonization and standardization policy result from the removal of trade barriers after 1992. British Standard Specifications will no longer be the only acceptable standards in Hong Kong. UK suppliers must compete fairly with other European countries,
4. the local market undergoes rapid changes. Using Porter's framework, such changes are summarized in Table II.10.

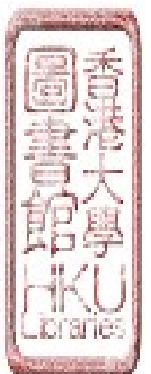
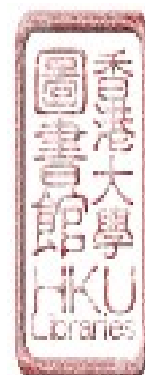


TABLE II. 10      CHANGES IN MARKET

	<u>Past</u>	<u>Present</u>
Market Environments	Stable	Dynamic
Perspective	Inward looking	Outward looking
Competition	Weak	Fierce
Growth	Slow	High
Profitability	High and stable	Declining
Products	Differentiated	Undifferentiated

Source : M. PORTER (1980)

Particularly fierce threat emanates Japan, which has the competitive advantages of higher productivity (Table II.11), more favorable exchange rates, cultural similarity, geographical propinquity, more aggressive strategy and superior marketing skills. Power struggles between the outgoing British and the incoming Chinese engineers in buying organizations lent also extra leverage to the Japanese.



For example, it still is a mystery to outsiders for the Hong Kong Electric Company to sever their centennial tie from the General Electric Company (GEC), UK and buy Mitsubishi power station equipment when Messrs. S. L. Chen and D. Allingham, the Chief and the Assistant Chief Engineers of the power company, were both ex-GEC executives. The sequel is: the former became the General Manager of Hong Kong Electric, and the latter left for UK when their relationship turned really sour after many power struggles.

#### 2.14 MARKETERS

The local agents of major E&M equipment act as intermediaries for their overseas manufacturers, and obtain their commissions on contract basis. There is no need for the agents to carry inventories. Separate teams of marketing personnel will be deployed to serve the public and private clients because of the different product lines handled and the specific requirements of personal sales services, direct technical support and after sales services.

In response to "guanxi" consciousness and price sensitivity, marketers' strategies centre around :

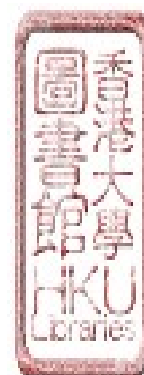


TABLE II.11 AVERAGE GROWTH RATE OF PRODUCTIVITY IN  
SEVEN MOST DEVELOPED INDUSTRIAL COUNTRIES

COUNTRY	1870 -1913	1913 -1950	1950 -1973	1973 -1985	1986 -1990*
JAPAN	1.8	1.7	7.6	3.1	3.5
US	2.0	2.4	2.4	1.2	1.5
UK	1.2	1.6	3.2	2.5	2.0
W.GERMANY	1.9	1.0	6.0	3.0	2.3
FRANCE	1.8	2.2	5.0	2.5	2.7
ITALY	1.2	1.7	5.5	2.1	2.4
CANADA	2.0	2.4	2.9	1.5	0.8

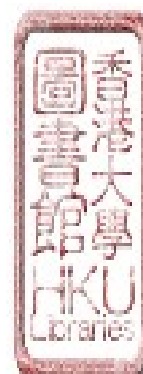
Productivity is defined as the value added per hour

\* For 1990, the figures are estimated values.

Source : Angus Maddison, (1990)

" The World Economy in the  
Twentieth Century " (OECD)

1. no frills -- low over-head, tight price, minimum technical service. Consequently, sellers' personnel policies are: low salaries and no training provided to salesmen, whose main incomes depend very much on commission. The vicious cycle of mutual distrust among employers/employees prompted the more ambitious staff to leave once their relationships with clients are good enough to start their own businesses.



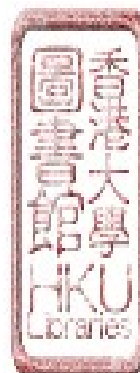
2. increased personal service, which in some cases may include social activities such as exorbitant luncheons, entertainment, seminars, launch picnics, souvenir, generous festival gifts and even over-seas business-cum-fun trips.

## 2.15 THE CHALLENGES AHEAD

Marketing management faces more changes at faster rates these days. Corporations no longer can cling to their old understanding of the industry. They need to be more integrative in their functional objectives, and open-minded to new ideas which render existing rules of the game obsolete. Some forecasting of the future is also necessary for full preparation into uncertainty ahead.

### GREATER CHINA

Economically, both E&M industry and P&C Sector depend very much on the "Perestroika" in Mainland China. As the Economist has presciently depicted in its October 1991 issue: "Hongkong accounts for 75% of Guandong's foreign trade and 80% of its US\$ 17 billion worth foreign investment, while Guandong accounts for 40% of China's export. There is every reason for the Chinese Government to maintain her open-door policy and honour the Basic Law and Sino British Agreement to keep Hong Kong and the Pearl delta area prosperous." Mr. K. C. Woo, Chairman of Wharf (Holding), coins the term "Hong Kong Plus" in his annual report 1990/91.



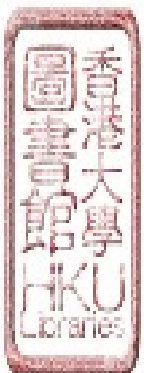
Mr. Woo estimates that Hong Kong's GDP will grow at 6% p.a. With Government spending at 18% of GDP on construction and a ratio of 40/60 public/private split, this will generate a 94% increase in expenditure on construction work by 2001. The HK\$ 127 billion for the Port and Airport Development Strategy (PADS) is only part of the overall schedule for the territory, given the extensive land reclamation in Central/Wanchai, and redevelopment of the existing airport.

#### DEMAND EFFECT

Total public housing production between 1988 and 2001 is to be 537,800 flats according to the latest review of the Housing Authority's "Public Housing Development Programme" released in July, 1991, and the potential demand for housing by 2000, is estimated at 881000 flats. After deducting accommodations in the private sector, there will still be an outstanding demand of 36000 households remaining unmet by 2002.

#### INTERNATIONALIZATION OF MARKET

South China too is charting its spectacular economic growth at 8% p.a. Foreign investments making their way to the economic and technological development zones in Guangdong and Fujian total approximately to HK\$ 3.2 billion, most of them involving Hong Kong capitals.



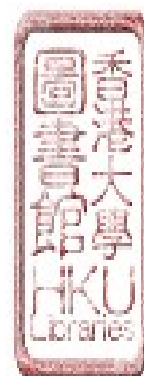
The thriving local economy, emergent South China property market, the trend towards intelligent buildings with sophisticated computerized controlled E&M equipment, and the 1992 ECC Harmonization will provide unprecedented opportunities and threats to international suppliers. Joint ventures in both China and Europe are taking place; the more recent ones are Schindler with Tienjin lifts, MK ELeetric and Siemens, then Mk and Merlin Gerin.

Politically, Hong Kong is believed to be more stable because China has invested heavily (HK\$9000 bn) in Hong Kong and therefore disruptive events similar to 1967 riots will be unlikely, but no competent businessman should ignore some of the adverse elements amid a predicted economic euphoria:-

1. Escalation of factor costs.

Since 1987, all construction costs escalated at an unprecedented rate, with building services costs topping others at 150% in three years.

For example, it was revealed during the investigation of excessive spending of the University of Science and Technology project that the actual expenditure was HK\$ 3.54 bn instead of the budgeted HK\$ 2.34 bn, a rise of 151.3%.





Imported labour and use of computer softwares, such as "Super Project Plus" from Computer Associates, and "Total Project Manager II" from Harvard, may help to keep costs down.

2. More stringent legal and technical requirements.

Following the enactment of the new Electricity Bill 1991, electrical contractors and workmen will require licensing, and electrical products certification. Internationally, BS 5750 (ISO 9000 equivalent) clearly specifies the responsibility, authority and inter-relations of all personnel who manage, perform and verify work affecting quality.

3. The large potential China market.

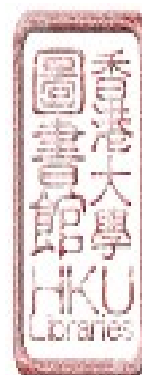
The size of the market will attract more competitors, introducing multi-national perspectives at all organizational levels.

4. Social factors.

Consumers are more knowledgeable and more demanding. Often the public agenda come to include professional topics like pollution, energy savings, sick building syndrome (legionary disease) and intelligence buildings.

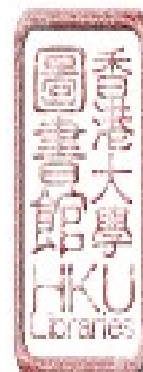
5. Lurking behind is also the misty phantom of pessimism about : -

- i. the brain drain of elite group affecting efficiency in both private and public sectors,



- ii. the displacement of English language and westernization by Mandarin and oriental "guanxi" and which generates major business with China,
- iii. the decadence of social security, legal system, and business ethics as a result of ruthless pursuit of wealth,
- iv. China's constant interference with major infrastructure work and social/political systems.

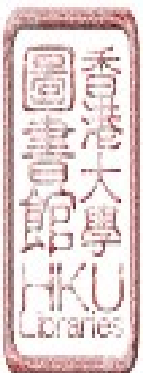
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"People tend to search for confirming not disconfirming evidence of their judgment, and conspire to exaggerate their belief, and unless relationships are very obvious, tend to rely on preconceptions and perceive illusory correlations."  
Isenberg (1984)

Hotelling is accredited with the development of the logic of Canonical Analysis\* in 1935. The calculations were too tedious to gain popularity among researchers. This method only came of age when computer programmes were available and the process was fully explained by Cooley & Lohnes (1962 & 1971) and later by Bentler and Huba (1982). Dunnette in 1963 extolled the method and severely criticized the over-simplification of using one criterion (dependent) variable in analyzing multi-variate (multiple variables) problems. Baggaley (1981) further observed that canonical analysis was the most general case of all linear models\*, e.g. multiple regression analysis\*, MANOVA\* and \*ANOVA, and discriminant analysis\*, which were but special cases of canonical analysis.

At first sight, the knotty techniques may appear to be beyond the comprehension of many marketing researchers. But with the advent of computer softwares, canonical analysis has become a popular tool in the social sciences. Therefore an understanding of the basic approach is deemed essential for the intelligent interpretation of research results.

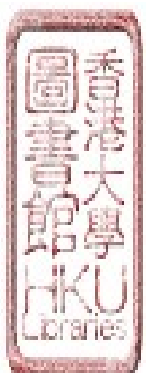


The following paragraphs assume that readers have previous experience and understanding of linear regression analysis.

The explanation will be non-mathematical as far as possible, and all calculations are assumed to have been done by a computer programme (some calculations are quoted in the exhibit for easy reference), drawing analogy with techniques used in single- and multiple-regression known to most marketers. A recapitulation of the principles of regression analysis will refresh readers' memory. Some definitions are grouped at the end of the chapters, these terms will appear in the text in bold-type and also marked with an asterisk.

### 3.1 REGRESSION ANALYSIS\*

In its simplest form, regression analysis involves the development of an equation between one dependent and one independent variables (hence its name bi-variate analysis). For example, sales turnovers,  $Y$  may be found given the advertising expenditure,  $X$ , Here it is assumed that all other independent variables (e.g. unit price, number of distribution outlets) are kept constant as if in an ideal scientific experiment under controlled conditions. The dependent variable  $Y$ , sales turnover, is predicted (causal relationship) by the independent variable,  $X$ , the advertising expenditure. In a causal relationship these variables are traditionally named predictors and criterions.



As many research problems using canonical analysis are about the description of interdependence rather than prediction, these variables are simply referred to as "left-hand" and "right-hand" variables as in the IBM programme used for this project.

### 3.2 RAW SCORE EQUATION

Field data, also called **raw data or raw score**, can be collected in pairs for these two variables, X and Y. When these data are plotted on a two-dimensional rectangular X-Y coordinate system, a scatter diagram with the points inside an elliptically shaped envelope is obtained. For simplicity of analysis, linear relationship is assumed between the two variables, therefore the equation is written as

$$Y = A + BX$$

where B = the slope of the straight line, also called the regression coefficient or weight

and A = the intercept of the straight line with the Y-axis

Because values of sales turnover, Y is to be estimated from known values of advertising expenditure, X, the equation is called a regression equation of Y on X.



To minimize the error of estimation, the method of least squares is the most popular to solve for constants A and B.

In the past, computer softwares only accepted input in **standard scores\*** or **z-score**, raw data must therefore first be standardized. Nowadays, many programmes will accept raw scores. The scatter plot based on z-scores will give a straight line passing through the origin, i.e. A, the intercept is zero. The linear equation will be reduced to

$$Y_S = r_S X_S$$

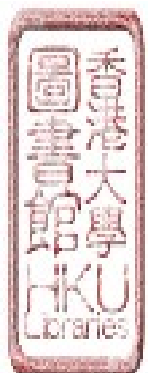
Where  $Y_S$  and  $X_S$  are expressed in standard scores and

$r_S$  = the slope of the new straight line, called the product moment correlation coefficient, pmcc, or simply correlation coefficient #.

### 3.3 MEANING OF SIMPLE CORRELATION

Simple correlation coefficient\*, given by +ve or -ve  $r$ , indicates how well the linear equation describes or explains the relationship between the two variables, X and Y. If the value of Y tends to increase as X increases, the correlation is positive. But if Y decreases as X increases, the correlation is negative.

# the relation between the pmcc and the regression coefficient, B is given by the formula  $B = r \frac{S_y}{S_x}$ , where  $S_s$  are the standard deviations of X, Y respectively.



If all points on the scatter diagram seem to lie on the straight line, the correlation coefficient,  $r$ , is unity ( +1 or -1). If  $r$  is zero, then the assumption of linearity between the two variables is incorrect; either the relationship is curvilinear or the two variables have no relationship at all. When the variables are carefully chosen, usually the absolute value of  $r$  lies between unity and zero.

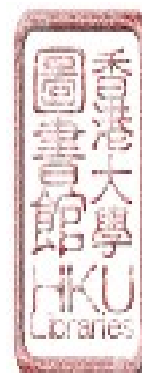
An example will illustrate the simple concept above. Assume that the linear equation for the two sets of data on sales turnover, and advertising expenditure above is solved to be

$$Y = 72.5 + 0.23 X$$

and the simple correlation coefficient,  $r$ , from the two sets of field collected data is found by the computer to be

$$r = + 0.805$$

the positive sign indicates that the relationship is positive, meaning that an increase in advertising expenditure will increase sales turnover. As  $r$  ( = 0.805 ) approaches unity, the relationship is nearly linear. Although from experience, the relationship between turnover and advertising expenditure is non-linear in the upper ranges of the two variables when saturation is reached.



The coefficient of determination given by  $r^2$  is calculated by

$$\begin{aligned} r^2 &= (0.805)^2 \\ &= 0.65 \end{aligned}$$

that is to say, 65 % of the variation in sales turnover is controlled by the variation in advertising expenditure, while the remaining 35% may be accounted for by other independent variables, e.g. price, number of outlets, not yet included in the analysis.

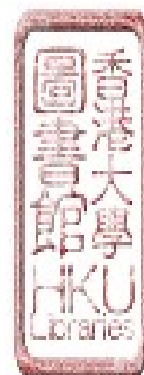
It is advisable to differentiate between the meanings of **correlation** and **variance** here in a simple regression analysis, as an analogy will equally apply to the more complex canonical analysis later.

If the standard error of estimation for this example is calculated from the raw data again by computer to be 38.7, then the value of sales turnover predicted from the linear equation has a range of error of plus or minus 38.7 units. For example, if  $X$  is chosen to be 1000, the predicted sales by calculation is

$$\begin{aligned} Y &= 72.5 + 0.23 X \\ &= 72.5 + 0.23 \times 1000 \\ &= 72.5 + 230 \\ &= 302.5 \end{aligned}$$

the actual sales turnover may vary from

$$\begin{aligned} Y &= 302.5 + \text{or } -38.7 \\ \text{or } 341.2 &> Y > 263.8 \end{aligned}$$





### 3.4 MULTI-VARIATE ANALYSIS\*

Multi-variate analysis involves more than one predictor and is concerned with weighting (i.e. find out the appropriate values of the constants B) the predictors optimally, to best predict a single criterion. As an example, a linear equation for three variables, (hence its name trivariate analysis),  $Y$ ,  $X_1$  and  $X_2$  using standard scores may be given as

$$Y = B_1 * X_1 + B_2 * X_2$$

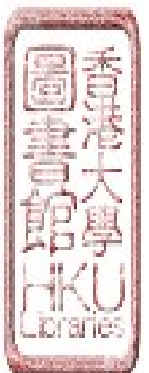
where  $Y$  = the dependent variable

$X_1$  = the first independent variable

$X_2$  = the second independent variable

and  $B_s$  = the slope of the plane, also called weights

In a three dimensional rectangular  $Y$ - $X_1$ - $X_2$  coordinate system, the equation represents a plane and the actual sample points scatter within an elliptically shaped sphere. Simultaneous algebraic equations are available for determining the various constants and coefficients in a way similar to the simple regression.



When the total number of predictors and criterion exceeds three, a three-dimensional space can no longer suffice and multi-dimensional space (called hyperspace) is involved. It will be difficult to conceptualize a hyperspace but computer softwares using principles analogous to the simple bi-variate and tri-variate analyses are available to solve the complicated mathematical equations.

A linear multivariate equation may be given as  

$$Y = B_1 * X_1 + B_2 * X_2 + B_3 * X_3 + \dots + B_n * X_n$$

The multi-regression equation is called a linear regression of Y on  $X_1, X_2, X_3, \dots, X_n$ .

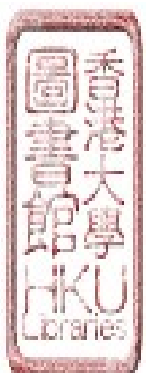
In a linear equation with n predictors ( $X_n$ ), there will be indefinite sets of solutions for constants A and Bs which will satisfy the linear equation. Any one set of such solution is called a composite\*  $X'$  where

$$X' = B'_1 * X_1 + B'_2 * X_2 + B'_3 * X_3 + \dots + B'_n * X_n \text{ another}$$

Composite  $X''$ , which also satisfy the linear equation, may be written as : -

$$X'' = B''_1 * X_1 + B''_2 * X_2 + B''_3 * X_3 + \dots + B''_n * X_n$$

and there are other composites  $X'''$ ,  $X''''$  and so on.



A note on the matrix notation may be helpful.

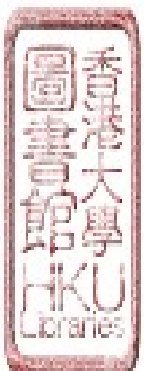
As there are numerous (say  $m$ ) solutions to this equation, the corresponding sets of data for each solution may be arranged in a matrix form, called the **correlation matrix\***, as

$$\begin{array}{ccccccc}
 & X_1 & X_2 & X_3 & \dots & \dots & X_n \\
 X' & B'_1 & B'_2 & B'_3 & \dots & \dots & B'_n \\
 X'' & B''_1 & B''_2 & B''_3 & \dots & \dots & B''_n \\
 \vdots & & & & & & \\
 \vdots & & & & & & \\
 X^m & B^m_1 & B^m_2 & B^m_3 & \dots & \dots & B^m_n
 \end{array}$$

If the matrix notation,  $X_{ij}$  is used to denote the weights,  $B$ , in row  $i$  and column  $J$ , the above matrix can be re-written more conveniently as : -

$$\begin{array}{ccccccc}
 & X_1 & X_2 & X_3 & \dots & \dots & X_n \\
 X' & X_{11} & X_{12} & X_{13} & \dots & \dots & X_{1n} \\
 X'' & X_{21} & X_{22} & X_{23} & \dots & \dots & X_{2n} \\
 \vdots & \vdots & \vdots & \vdots & \dots & \dots & \vdots \\
 \vdots & \vdots & \vdots & \vdots & \dots & \dots & \vdots \\
 \vdots & \vdots & \vdots & \vdots & \dots & \dots & \vdots \\
 X^m & X_{m1} & X_{m2} & X_{m3} & \dots & \dots & X_{mn}
 \end{array}$$

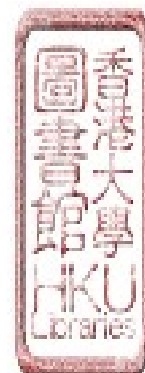
In the multiple correlation analysis above, there is only one criterion  $Y$ , in one of the set, Set I, and  $n$  predictors in the other set  $X$ , Set II. There can only be one linear combination, i.e. one criterion composite, in Set I. Of the infinite numbers of predictor composites of set II that can be found, the one that has maximum correlation with the composite of Set I is selected as the solution. The problem is relatively simple because there is only one possible variable in Set I.



The linear correlations between criterion,  $Y$ , and each of the predictors  $X_1, X_2, \dots, X_n$  are given by the simple correlation coefficients  $r_1, r_2, r_3, \dots, r_n$ . The multiple correlation coefficient,  $R$ , which describes the linear relationship between the criterion and the set of predictors may be calculated from the simple (zero-order) correlation coefficients  $r_1, r_2, \dots, r_n$  above, using either the computer or some formulae, and its value will lie between unity and zero. The closer it is to one, the better is the linear relationship.

### 3.5 CANONICAL ANALYSIS

Canonical analysis is defined by Aker (1971) as a technique for finding the correlations between two sets of variables. Given two sets,  $X_n$  of  $n$  predictor- and,  $Y_m$  of  $m$  criterion- variables, there will be an infinite number of linear combinations satisfying the regression equation. However, it is possible, as in a multiple regression analysis, to find a linear combination (called a **composite\***), of the set of variables to suit certain conditions. Canonical analysis starts to find a composite  $X'$  of the predictor set, Set I, and a composite  $Y'$  of the criterion set, Set II such that the composite  $X'$  will have the maximum correlation with the composite  $Y'$ . Each of these composites is defined by its regression weights  $B_s$  or  $C_s$  in the same way that the composites of multiple correlation analysis is defined by its Beta weights.



The correlation coefficient between two composites is called the **canonical correlation coefficient**,  $R_c$ , to distinguish it from the simple correlation between two variables,  $R$ .

The canonical correlation between two composites can be regarded as analogous to simple correlation between two variables. There is only one pair of  $X'$  and  $Y'$  that exactly meets this condition of maximum correlation, and the Beta weights,  $B_s$  and  $C_s$ , called the **canonical weights\***, may be calculated by the computer:

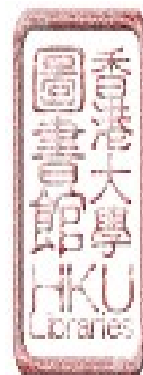
$$X' = B_1 * X_1 + B_2 * X_2 + B_3 * X_3 + \dots \dots \dots B_n * X_n$$

$$Y' = C_1 * Y_1 + C_2 * Y_2 + C_3 * Y_3 + \dots \dots \dots C_m * Y_m$$

This means that it is possible, from the above equation, to find the value of  $X'$  if  $X_1, X_2 \dots X_n$  and  $B_1, B_2 \dots B_n$  are known or given.

From the composites, the results can be deduced as:-

1. Each of these composites is defined by a set of regression weights or **canonical weights\***,  $B_n$  and  $C_m$ , in the same way that the composite of multiple correlation analysis is defined by its Beta weights. The weights reflect the relative contribution of each variable in the set to that composite which has the maximum correlation with the other composite. If the weight for say  $X_3$  is large, the variable  $X_3$  is a significant predictor of the criterion, otherwise, the variable may be neglected.



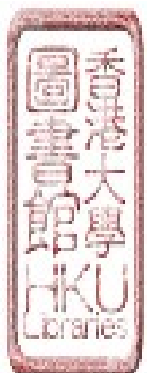
2. The degree of the relationship between the pair of composites is given by the **canonical correlation coefficient\***,  $R_{C_n}$ .
3. The square of the canonical correlation coefficient, known as **eigenvalue\***,  $R_{C_n}^2$  represents the amount of variance in one composite that can be accounted for by the other composite.

The next step is adjust the X and Y variables to leave a set of X and Y residuals. From this new set, the second pair of composites can be determined subject to two requirements :-

1. the second pair must be independent of the first pair of composites, i.e. the two pairs are uncorrelated.
2. the pair must have the second maximum possible correlation.

The degree of correlation between the second pair of composites is given by the second canonical correlation coefficient,  $R_{C_2}$ .

The third and subsequent pairs may all be similarly determined.



All pairs of composites are calculated using matrix manipulation and therefore the total number cannot exceed the smaller number of the predictor or criterion variables,  $m$  or  $n$ . For example, if  $m = 4$  and  $n = 5$ , the number of pairs of composites will be 4 as represented by  $X', Y'$ ;  $X'', Y''$ ;  $X''', Y'''$ ; and  $X'''', Y'''$ , and the values of the canonical correlation coefficients are such that

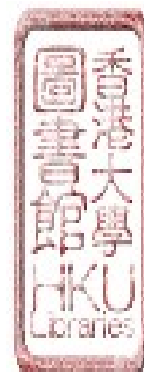
$$Rc_1 > Rc_2 > Rc_3 > Rc_4.$$

Bernstein (1978) concludes that canonical analysis is powerful in the study of : -

- " 1. whether each of the predictor variables,  $X$ , has any impact on the criterions,
2. which predictor has the strongest impact on the criterions,
3. the nature of the links or patterns of inter-dependency that join the predictor/criterion sets."

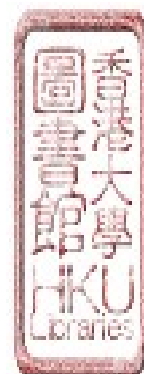
### 3.6 REDUNDANCY ANALYSIS

In the previous paragraphs, we see that the canonical weights show the relative contribution of each variable in the predictor set  $X$  to the predictor composite  $X'$  which has the maximum correlation with the criterion composite,  $Y'$ . We also see that the canonical correlation coefficient refers to the relationship between a pair of composites  $X', Y'$  of the two sets  $X, Y$ , and not to the relationship between the two original sets  $X, Y$  themselves.



The consequence is that the focus of attention is shifted from the original variables (familiar to the investigator) to some new, unobserved variables-- the canonical variables in the two linear composites. Bernstein therefore indicates that canonical correlation is best suited to identify the presence of certain predictor variables and the direction of their effects.

We may define **canonical component loading\*** as the correlation between the composite of one set and each of the separate variables within the set. For the predictor set  $X$ , it will be the correlation between the composite  $X'$  and each of the separate variables  $X_1, X_2$ , etc. Each of these canonical component loadings is thus a bi-variate correlation. The square of this loading, termed **squared canonical component loading\***, gives the amount of variance of the variable that is accounted for by the composite. Because each variable has unit variance, we can divide the sum of all squared loadings by the number of variables in the set (which is the total variance of the set) to obtain the proportion of the variance of the set that is accounted for by the composite.





If this value is multiplied by the squared canonical correlation, the result is the proportion of variance in one set that is accounted for by the composite of the other set. Doing this for all the composites of a set and summing the results yields the proportion of variance of one set that is accounted for by the other set. The resulting indices are called **redundancy**,  $R_d$ , by Steward and Love (1968). Redundancy analysis may be said to concern with "how knowledge of X reduces the uncertainty about Y, and vice versa."

It is quite often the case in a canonical analysis that lower ranking composite other than the first will have the highest redundancy, because the pairs of composites are considered in the order of their **correlations** with each other, not in the order of the proportions of **variance** they account for in their respective sets. This phenomenon is most likely to occur when there is a single variable in set I that is highly correlated with a single variable in set II. As an example, if in set I a variable is "years of working experience" and in set II a variable is "age", the between-set covariance is already high, then the canonical correlation becomes high as well, yet all variables in set II may not necessarily account for a major part of the variance in set I if the other variables in the two sets are not closely correlated (ref. Exhibits VII and VIII).



### 3.7 LIMITATIONS OF CANONICAL ANALYSIS

Many writers, while acknowledging the powers of canonical analysis, have reminded researchers of possible misapplication and its inherent assumptions :-

1. sampling errors. Samples from the entire population being not representative; e.g. non-respondents are not counted. Or the sample size is not great enough to ensure cross-validation.

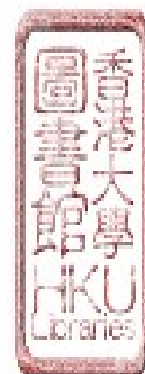
The issue of sampling size warrants some digression at this stage and the two schools of thought are explored.

Barcikowski and Stevens (1975) in their research into the stability of canonical analysis results, find that "the size of the samples required for stable results increases as the number of variables increases (Aaker, 1971)." They therefore insist that although canonical analysis may on occasions be resistant to the deleterious effect of high (variables to sample size) ratios, large samples are always likely to be advantageous and mandatory for incisive analysis.

Aaker quotes two rules of thumbs for the sample size  $N$  with  $p$  predictors and  $c$  criterions as : -

a.  $N \geq 10 * (p + c) + 50$

b.  $N \geq (p + c)^2 + 50$



This means that for a 70-variable problem,  $N$  becomes 750 by the first rule and 4 950 by the second rule. The collaborative IMP research interviewed nine hundred people in five countries. Hence it passes the first rule but not the second.

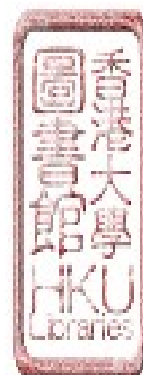
Gittins' recommended yardstick of variable to sample size ( $v/s$ ) is in the range of 0.025 to 0.05. For 75 statements, the sample size must be somewhere between 3000 and 1500 for firm conclusions to be reached.

If the sample size is smaller than these recommended values, Gittins reckons that two consequences may ensue : -

- a. estimates of the canonical correlation coefficients, canonical roots, and redundancy will be biased, perhaps appreciably.
- b. the model will be vulnerable to sample-specific variations and covariations.

Therefore the hypothesis should be accepted with reservation, and its external validity beyond the sample is doubtful.

When the sample size is below thirty as is inevitable in small and defined industry, both Gittins (1985) and Haas (1989) put forward the view that for a relatively small population, the recommended sample size of  $N =$  or  $> 30$  is adequate.



They argue that what affects statistical confidence is in fact the ratio of sample size to population. Yet it is always true that a large sample will minimize the deteriorious effect of high v/s ratio.

With the latter argument in mind, it is therefore proposed to discuss the canonical weights even the the significance tests cast some doubts on the external validity of the relationship.

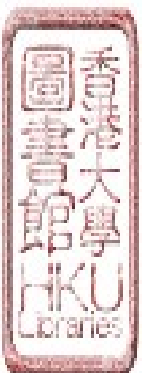
2. the values of canonical weights used in computing the composites are subject to considerable instability from sample to sample. Instability occurs because the computational procedure yields weights that maximally correlate with the composites for a particular sample.
3. faulty interview or questionnaire design,
4. improper statistical techniques,

The combined effect of 1, 2, and 3 resulting from measuring process above is called **error in variables** (Bernstein, 1978).

Other assumptions made in a canonical analysis are :-

1. all predictors are perfectly reliable.
2. the predictors are linearly independent.

The omission of an independent variable, or inclusion of a variable which is highly related to or correlated with an included variable (collinearity).



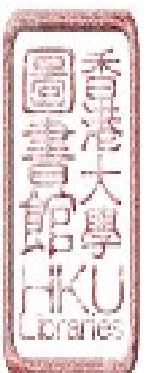
The combined effect of all excluded/included variables is called an **error in equation**.

3. all criterions consist of a systematic component perfectly related to the predictors and of a residual component which is totally unrelated to the predictor.
4. the residual is purely random.
5. the degree of intercorrelation (multi-collinearity\*) is low.

Lamber and Durand (1975) sum up the limitations in a sentence :-

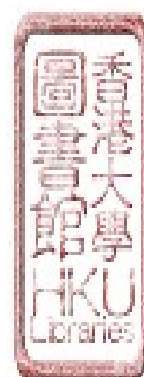
" Canonical analysis provides researchers with a tool for consolidating into a composite measure what otherwise might be an imponderable number of bivariate correlations between sets of variables; the technique is particularly useful when test(ing) relationship"

ooo000ooo



PART TWO

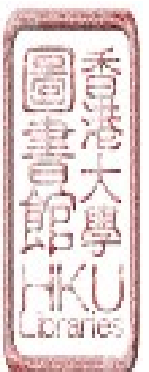
THE RESEARCH



#### 4.1 LITERATURE REVIEW

The "Interaction Approach" was developed by the International Marketing and Purchasing (IMP) Group of marketing and organizational buyer behaviour academics in their research into the European international markets during 1972. Their project involved collecting data on forty seven items from one hundred and ninety six purchasing executives by staff from IMP Group in five European countries -- UK, Sweden, Germany, France and Italy, using their first (dyadic) model.

This evolved into the world's largest social survey producing texts such as Turnbull & Cunningham (1981), Hakansson et al (1982) and in a revived mode which included their second model (1990). Assigning the criterion set to be the suppliers' technical and commercial skills, a group member, D. Ford started to examine the relation between industrial buyers' assessment of these skills and a number of relational variables.



Technical skills may be seen as abilities in such areas of product performance, production quality or development; and commercial skills as abilities to provide services in the areas of deliveries and delivery information. For the predictor set, the relational variables are chosen to be :-

1. **commitment** - suppliers' efforts directed towards a specific geographic or market segment, and their efforts directed solely towards a company,
2. the **adaptability** of the suppliers to modify a product, a production process, etc. to suit buyers' needs,
3. the **distance** which buyers feel from suppliers,
4. **conflict**, the extent of disagreement over resource allocation, and the level of co-operation between the two parties for transactions to take place.

The IMP Group has established that good relationships between buyers and sellers are essential for success in industrial market in the European culture (Turnbull & Cunningham, 1981 and Hakansson et al., 1982). The method of measurements of these variables is based on Burns and Stalker's total percentage scores, converted weighted scores and score charts (Fig. IV.1).

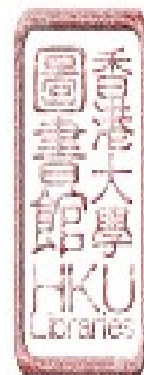
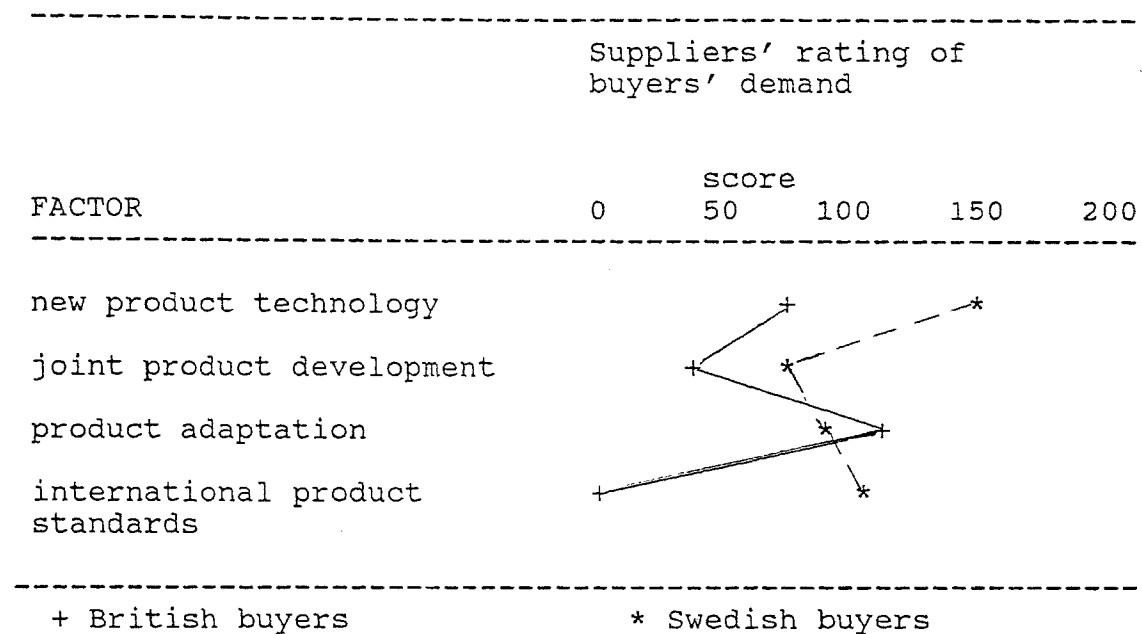




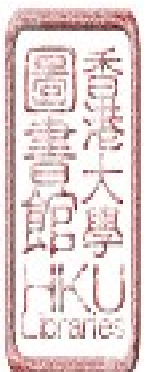
Fig. IV.1 A COMPARISON OF THE REQUIREMENTS OF BRITISH & SWEDISH BUYERS ( Only partially reproduced )



Source : Turnbull & Cunningham, (1981)

The corresponding five bonds which bind companies together are considered by Ford to be : -

- "1. technical bonds -- importance of salesman's technical knowledge, suppliers' willingness to collaborate in new product research and development (R&D), to provide technical assistance, after-sales technical advice/assistance, to exchange product-specific technical information and to make product adaptation,

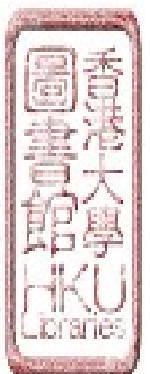


2. time-based bonds - delivery time, punctuality of delivery, stock holding and length of relationships,
3. knowledge-based bonds - ability to analyse the other party's needs, reciprocal understanding of how the other party operates and what their abilities are, understanding of buyers' markets, adaptation to other party's administration procedures, etc.
4. social bonds -- the types of information exchange, mutual trust, the importance of social meetings, personal friendship and commercial advice,
5. financial/legal bonds -- commercial/contractual links between the two parties, the duration of links, the importance of payment and credit facilities."

(D. Ford 1982, Hammarkvist 1983)

Ford (1986) observes that initially IMP researchers concerned themselves with relationships between industrial manufacturing companies in the developed world, and gradually extended to cover relationship between these manufacturers as exporters and their overseas distributors and importers in developing and newly industrialized countries #. Ford finds close resemblance in their relationships to the developed world (Ford et al 1982).

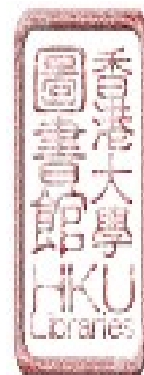
#Brazil, Uruguay, Greece, Israel, India, Nigeria, Hong Kong, the Philippines, Taiwan and Singapore



Other projects put the theory to different aims. For example, Cunningham and Homse (1986) study personal contacts and roles in developing and maintaining relationship, factors determining resource allocation and network of contacts, and reach the conclusion that at the core of the exchange processes between suppliers and buyers is the person-to-person dyadic relationship between the salesmen and a buyer, but supporting this narrowly based dyad is a complex network of inter- and intra-organizational personal contacts. The relationship is a complex interplay of various persons at multi-status, multi-functional levels.

M. Cunningham and R. Pyatt (1989) make a different research to compare manufacturers' attitudes and their resellers' in the distribution channels of mid-range computers. They are interested in how manufacturers use and manage their channels of independent dealer distributors, and emphasize on organizational interactions and business relations between manufacturers, intermediaries and end-user customers. The 1986/89 researches on which this paper was based included some initial work on what later became known as the "test of interactivity".

Other recent Asian-Pacific studies include several trades and industries (viz. SLR camera, domestic insurance, financial services, consumer durables and television set distribution) applied the test of interactivity in Hong Kong markets with coherent and revealing results that : -



1. professional business buyers in the SLR Camera channels do encourage some degree of long term close relationship between them and the suppliers' staff (Cheung et al, 1990).
2. In Hong Kong, even some domestic/finance service (1990) consumers and domestic purchasers of durables and services, seek some form of relationship in addition to 4Ps (Chung, Cheung and Yeung, 1990).

Using similar graphical techniques and basing on the last part of the same questionnaire of this thesis which applied the "test of interactivity" coupled with the work of Granroos (1989), the author's co-worker, Chester Kwok has covered the issue of marketing strategies in the E&M industry in his 1992 thesis "The Balance of Buyer-seller Interactions along the Marketing Strategies Continuum in the Hong Kong Markets for Electrical & Mechanical Industrial Products."

With data collected on 70 statements along a five-point scale of agreement from the 196 European buyers by IMP Group, Ford first made the gallant effort to apply canonical and redundancy analyses to the Interaction Model.

Mathematically, Ford's five hypotheses can be viewed as two models with the mathematical equations of : -

$$\begin{aligned} \text{dependent technical competence} &= f_1 \text{ (factors)} \\ \text{and dependent commercial competence} &= f_2 \text{ (factors)} \end{aligned}$$

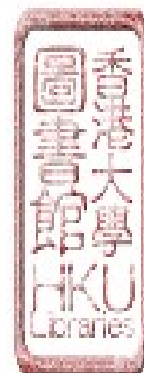


TABLE IV. 1 BUYERS' ASSESSMENT OF THE TWO  
SETS OF VARIABLES

---

Variable set I  
technical skills  
commercial skills

Variable set II  
market commitment  
customer commitment  
adaptability  
distance  
conflict

---

Source: Ford (1990)

Ford's canonical analysis results were later incorporated into his article "Buyer/Seller Relationships in International Industrial Markets" (Ford, 1990). The redundancies of two variable sets, expressed as a percentage of the total variation in each set, are used to measure their shared variations. Ford shows that all these redundancies are significant at the 1% level except the one between technical skill and market commitment, Table IV.2.

Canonical analysis enables Ford to find significant relationships (at 1% level) for his five hypotheses : -

1. association between perceived commercial skill and market commitment; but the relationship between technical skill and market commitment is only significant at the 5% level,
2. association between purchasers' perceived commercial and technical skills of suppliers and customer commitment,

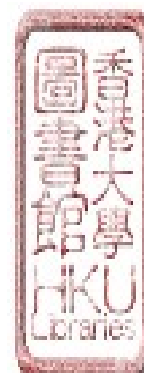


TABLE IV.2 REDUNDANCY MATRICES

	Criterion Set	
Predictor Set	Commercial Skill	Technical Skill
Market Commitment	0.0710	0.0571*
Customer Commitment	0.1368	0.1433
Distance	0.2042	0.2444
Adaptability	0.1506	0.1321
Conflict	0.2275	0.2071

N = 196 purchasers

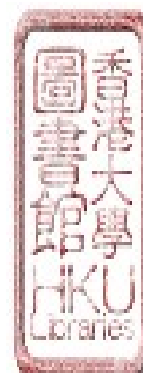
\* All values are significant at the 1% level using the Miller test, except for this one which is at the 5% level

	Predictor Set	
Criterion Set	Commercial Skill	Technical Skill
Market Commitment	0.0781	0.0598
Customer Commitment	0.1290	0.1382
Distance	0.1039	0.1433
Adaptability	0.1368	0.1118
Conflict	0.2262	0.1907

N = 196 purchasers

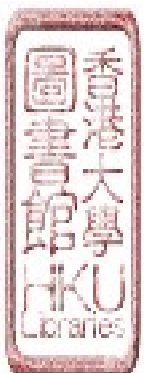
\* All values are significant at the 1% level

Source: Ford (1990)



3. association between buyer's assessment of the commercial and technical skills of suppliers and their perceived adaptability.
4. association between industrial buyers' perception of the commercial and technical skills of suppliers and the distance between themselves and their suppliers,
5. association between industrial buyers' perception of the commercial and technical skills of suppliers and buyer-seller conflict.

Enthused about Ford's approach, Anthony Pang of Dow Chemical (an HKU MBA year-three student in 1980) carried out an identical research among 35 marketers in the Hong Kong plastics industry. He could only find significant canonical correlations between the commercial/technical skills (the criterion set) and market commitment/distance (the prediction set). One main reason, the author suspects, that Pang could not find relationships between the criterion set and other variables (customer commitment, adaptability and conflict) may be -- "Plastics products are more of a commodity nature rather than of an industrial nature."



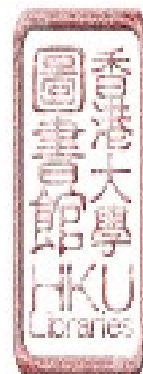
#### 4.2 IMPLICATIONS OF APPROACH

The IMP Group, from experience, proposes the following research guidelines :-

- i. For a proper understanding of organizational buying behaviour, it is necessary to study buyers and sellers simultaneously. (This project follows strictly this rule.)
- ii. It is necessary to involve in the research local nationals who know the local industry well. (The author himself meets with this requirement.)
- iii. Questions if translated to local language, should be back-translated to the master copy. (After going through the list of firms, the author believed that the CEOs' competence in English rendered translation unnecessary.)

A strong support is Redding's research finding that when the samples are at senior executive level, "the use of English in Hong Kong, although not ideal, was not apparently a serious handicap" (Redding, 1990, p. 249),

- iv. the research has to be sufficient in scope. (However, time and cost must also be considered.)
- v. the research if carried out across national borders, should be of similar product group as far as possible. (The International and Hongkong Standard Industrial Categories (HSIC & ISIC) are used for this project.)





#### 4.3 PROCEDURE

Based on IMP Group's guidelines, the following steps are devised in order to yield the most reliable and valid information, given the constraints of situations and resources: -

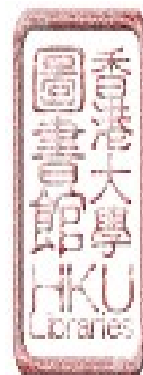
1. Define the problem and objectives of the research.
2. Specify the industry and sampling methods.
3. Design/adapt questionnaire.
4. draw up implementation plan.
5. Administer questionnaire and decide method of analysis.

#### 4.4 OBJECTIVES OF THE SURVEY

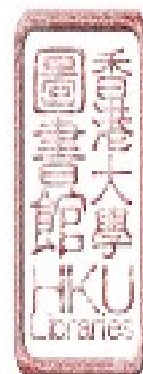
There is a general inadequacy of knowledge and analysis about the industrial buyer/seller relationship in Hong Kong, and (according to R. Pyatt) a general absence of China trade within the IMP literature.

Most researches in Hong Kong are for consumer markets, with emphasis on tactical variables of product, price, promotion, and place; long-term and less palpable relational variables serve at best as back-burners.

Adopting Ford's established framework based upon his role in the IMP group Europe-wide research, this project aims to : -



1. carry out a qualitative research of businessmen's attitudes to marketing and purchasing relationships in the local E&M industry; find out the extent to which interactive marketing and purchasing is being applied by examining the variations in perceived technical and commercial skills of both suppliers and purchasers given the variations in the variables of commitment, adaptation, distance, conflict, market factor and market activity. Also find out any difference between buyers'/sellers' views of the other party's needs.
2. present the results in the form of statistical summaries without reference to any individual or establishment for confidentiality,
3. provide statistics which may be useful for the purpose of management science study into contacts with persons and organizations in the region, and hopefully,
4. form part of a comprehensive Pacific Asia Trading Research Programme, so that comparison with researches conducted in other countries may be done to show any differences due to culture, education, training, level of needs, stage of economic development, attitude, behaviour, characteristics, belief and experience of marketing and purchasing executives.

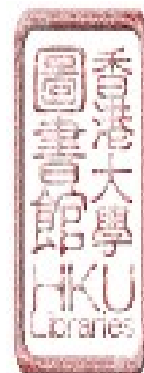


This research project will focus on the specific E&M industry where both buyers and sellers in the public and private segments are often technical experts turned marketing/purchasing staff, hence they do not share homogenous motivations. The major patterns of organizational buying behaviours are identified and any gaps between buyers and sellers are verified by statistical analysis. Some explanation is also given where a difference exists between the results of IMP universal and this project.

The research hopefully may prove an important lesson for existing practisers in the industry to revise their formulation of marketing strategy and re-direct resources to develop and cement relationship, and for any new entrants to overcome some of the relational barriers.

Notice well that this research does not concern itself with a one-way causal relationship (for example, a high degree of technical skill is caused by a high degree of customer commitment), but is concerned with the question whether or not the different measures are associated closely with one other, i.e. whether there is any commonality between the way in which suppliers are evaluated along the different dimensions.

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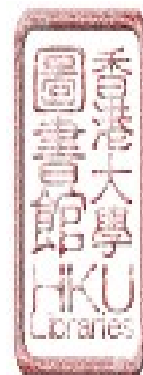
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### 5.1 SIZE OF THE SAMPLE

In classical quantitative research the universe will refer to the whole population and random sampling is one way of assuring representativeness of the sample. But in industrial research, according to IMP Group's guidelines, samples should not be random and must be selected according to the appropriate industry and products. (For example, see Turnbull and Cunningham 1981, p.12). Usually the international standard industrial categories (ISIC) provide the lead to further selection. In the case of the local E&M industry, fortunately such sampling plan of firms has been prepared by the Hong Kong Census Department, based on stratified random sampling, for the use by Vocational Training Council (VTC) in its bi-annual manpower survey (Appendix XI).

Although there are more than six thousand firms in the three categories of manufacturers, contractors and services sectors, firms of the following natures may be eliminated without seriously affecting the research results:

1. manufacturers of consumables rather than industrial types of products; because they are not in the industrial sector,



2. the large number of small sub-contractors (estimated to be greater than 2000 out of 3614 firms as at 1989) who provide "labour only" to major E&M contractors, domestic contractors of property developers, and contractors doing one-off type of small renovation work; because they are difficult to reach and because their data will be irrelevant, anyway,
3. small subsidiaries of large firms which exist ephemerally, on a project-to-project basis,
4. firms which are no longer active because their owners have either retired, migrated or lost interest, etc. Evidences may be their complete absence from the local business circles including trade associations, exhibitions, seminars, advertisement, community services.

## 5.2 IMPLICATIONS OF THE SAMPLING METHOD

The short-list has been double-checked to ensure : -

1. the inclusion of all firms, regardless of company sizes and numbers of employees, which will represent the majority of players in the market,
2. the inclusion of the top ten firms in each category, and subsidiaries of large "Hongs" including any joint ventures, branches, licensed firms, and entrepreneurial firms,

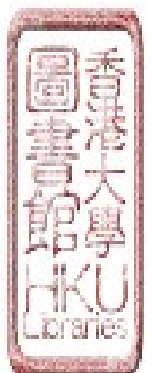
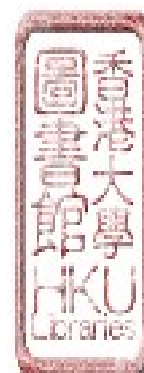


TABLE V.1 STAGES OF SCREENING THE SAMPLING PLAN

STAGE OF SCREENING	client	consultant	contractor	supplier
1. VTC mail list	x	x	x	x
2. government's contractors lists			x	x
3. membership list of the Electrical Contractors Assoc'n		x	x	x
d. membership list of the HK Institute of Engineers	x	x	x	x
5. E&M trade journals e.g. Building Products Finder	x	x	x	x
6. list of Approvals by Buildings Ordinance Office	x	x		
g. professional seminars, meetings, social gathering, etc	x	x	x	x

3. the countries of origin of products the firms handled to be from most and newly industrialized nations e.g. UK, USA, Japan, China, Korea, Taiwan, Western Europe.

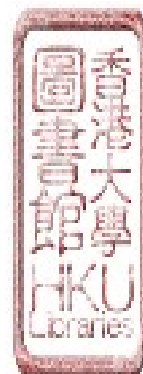
As a result, only those firms having substantial operational experience and actively taking part in the industrial market will be included in the survey list.



The final list of samples includes the eleven major property developers, 150 consultants, contractors and suppliers, and is believed to represent over 70% of the number of firms in the E&M industrial category, and over 90% of the whole population in terms of contract values.

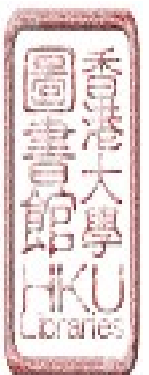
The original intention was, from hind-sight, over-ambitious to target at :-

1. a wide scope of research -- data were to be collected from as many as possible firms in the three categories, from Hong Kong and other four countries in the region. In reality, returned data are mainly on Hong Kong and to some extent on China.
2. a great depth of research -- questionnaires would be sent out in sets of four to four members in a firm's Decision Making Unit (DMU) to include user, specifier, purchaser, and decision-maker; but after consultation with the prospective firms' Chief Executive Officers (CEOs), it was considered not feasible because of the following facts : -
  - i. Except in very large organizations, the roles of purchaser, policy maker, specifier, decision maker are not so distinct as those of their European counterparts,



- ii. end-users including the management office staff who will look after the maintenance and repair work after the buildings are taken over have surprisingly very little say in the tendering stage,
- iii. all CEOs have worked their ways up as engineers, contracts managers to managing directors, and have gained experience in most of the four roles,
- iv. staff other than the CEOs will either decline or refer the questionnaire to their CEOs, who are looked upon as the only legitimate spokesmen for their companies,
- v. CEOs are not keen to oblige staff other than themselves to answer questions of a sensitive nature. Without the CEOs' cooperation, it is almost impossible to reach those employees.

CEOs' reluctance to cooperate is understandable. Firstly, as Chinese CEOs are notoriously guarded about their own companies, they see any leakage of information to outsiders unwise.





Secondly, CEOs do not want their subordinates to know or discuss relationship openly. For these and other reasons, confidentiality and anonymity at the executive level must be reassured.

Thirdly, the quality of responses from the lower levels may not be useful, because these people lack both knowledge and authority to influence transactions.

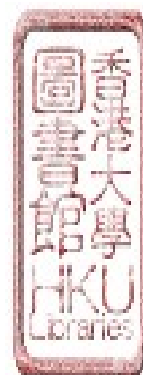
For lack of support from the CEOs, it was decided to deal with the top authority and his assigned deputy only.

### 5.3 CHARACTERISTICS OF THE SAMPLE

A detailed discussion of the characteristics of the sample has been carried out in Chester Kwok's 1992 paper. It is however interesting to note that all respondents are male, and all except one are Chinese; indicating that Chinese engineers have been rapidly promoted to very senior positions in the last decade, but that female engineers are still scarce.

### 5.4 METHOD OF DATA GATHERING

Besides constraints of time and expenditure, it was doubtful if personal interview used by both Ford and Pang would appeal to prospective respondents, therefore a pilot test using personal interview with ten prospective respondents from the short list was conducted during a lunch-time social gathering with a view to ascertain : -

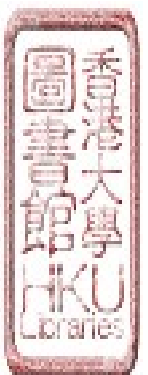


1. the attitudes of the prospective respondents. Because of the confidential nature and the long time required to complete the interview, they immediately indicated their preference to do the questionnaires at their own pace and time.
2. understanding of the questionnaire -- When the completed forms were received, the data had been checked to be in order and therefore both translation to Chinese and amendments to wordings were considered superfluous,

Only four of the respondents sent back their replies, the remaining six used all sorts of excuses to defer an immediate response. When the full survey was launched according to the time schedule, it was difficult to chase these six respondents because of guaranteed anonymity.

Other problems (Redding, 1990, pp.246-249) envisaged in the use of personal interviews are : -

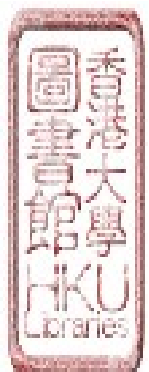
- a. the respondents expect some equivalence of status between the interviewer and themselves, to afford their valuable time and to win enough of their confidence. Redding (1990) suggests that, provided the interviewer is a person of status, evenings in a high quality hotel and dinners will give CEOs "face" and help create an atmosphere conducive to the particular social chemistry and reduce barriers the Chinese erect around themselves,



- b. if the interviewer lacks status, busy CEOs are notorious for their resistance to prolonged interview during office hours, as they are often preoccupied with other priorities.
- c. norm of reciprocity, especially for the Chinese CEOs, is inherent in the acceptance of an interview,
- d. respondents' suspicions had to be thawed with the guarantee of confidentiality,
- e. enough time must be given for respondents to consider alternatives.

After the pilot test, the idea of personal interviews has to be discarded, because of the difficulties experienced during the pilot test and problems enumerated above. On the other hand, mailed questionnaire not only overcomes some of the problems listed above, but also costs less, and takes less time to reach widely scattered locations. It also gives respondents more time to mull over questions, frees them from personal influence of the interviewer, and assures them of anonymity so that personal data will be disclosed.

Little difficulty was experienced in obtaining an updated list of firms to receive the questionnaires, and in ascertaining the proficiency of all the respondents in English.



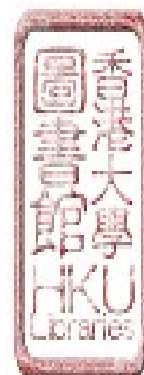
But anonymity posed the problem that respondents might not send back their questionnaires after all, and those who did might have biased views and therefore not be very representative. The solution was to chase all respondents until they said they had returned the replies or given their reasons for non-reply.

Another difficulty that the questions might be misunderstood should not be present in this case because all questions had been used repeatedly and because the respondents' education levels and experiences were high.

In comparison to the norm of less than 10% in the consumer market, the response rate of over 30% is considered satisfactory for the results to have strong external validity.

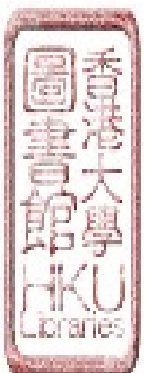
#### 5.5 METHOD OF RESEARCH COORDINATION

Out of the 300 questionnaires printed, one was mailed to each of the 161 firms. A telephone call was made to each prospective respondent to solicit response, by explaining the purpose of the survey, clarifying some of the queries, offering incentives if necessary, thanking the respondent for his cooperation, and inquiring if any other persons down the hierarchy would be in a position to reply in his stead or in addition.



Even with persistent but friendly follow-up by phone calls, tardiness in response was inevitable with these top men, presumably because of the low priority awarded to academic surveys. The field work started in June 1991, and the last reply drifted in six months later, shortly before Christmas.

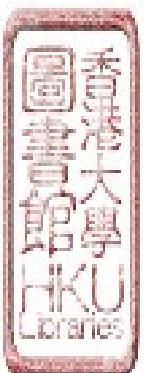
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### 6.1 STANDARD QUESTIONNAIRE

One of the objectives of this study is to replicate the European based Interaction Approach to the Hong Kong E&M industry, aiming at both the buyers/sellers, and to compare the results with findings by the IMP Group. Therefore the methodology adopted will be identical as far as possible, not only because this adoption gives the added advantage of close comparison but also because it is in the ethic of the IMP group of researchers. The IMP standard bank of questionnaires which have been pre-tested in Western countries was consulted. The well-structured, five-point scale, self-administered questionnaire for marketing and purchasing managers was adopted. The contents of the questionnaire are divided into three main parts : -

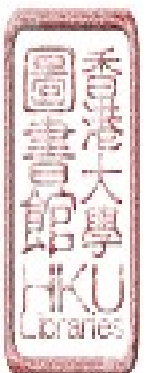
1. part one : personal profile of the respondents:  
nationality, ethnic background, languages spoken, length of career, job title etc.
2. part two : contacts with nationals of five Asian countries (Hong Kong, Taiwan, Korea, Japan & China); whether first, second or third hand.



3. part three : the main body of the research comprising

- a. The respondents' Asian marketing strategies (Table VI.1) sections I to IX containing statements on technical and commercial skills and the other relational variables used in this research.
- b. Sections X and XI containing supplementary statements on marketing strategic continuum, which are for Chester Kwok's research.

The full standard sets for marketing and purchasing managers including statements on marketing factor and activity distance were chosen, so that the author's biased impression, if any, of the industry might be updated or corrected. Few statements believed by Anthony Pang to be suitable for local industrial practice were also added to the IMP version (Table VI.1). A covering letter in English (Exhibit XVIII), bearing the name of the University of Hong Kong, was signed by the author in the belief that the author's personal networking might enhance the recipients' attention and cooperation, knowing that most industrial managers were over-researched. Exhibit XIX only shows the set of questionnaire for purchasers because of the similarity of the buyers/sellers questionnaires used.



## 6.2 OPERATIONALIZATION OF VARIABLES

The IMP questionnaire is based on concepts about the nature of relationships between buyers and sellers. Such constructs have been developed and proven by many IMP Group's researches. Publications on these researches can : -

1. aid investigation relative to international marketing and purchasing activities,
2. suggest/test the construct on relational variables,
3. provide data/discussion among two or more countries.

IMP Group operationalizes the qualitative relational variables into measurable quantitative indicators by listing some seventy statements, each one is to score on an easy-to-analyse five-point interval scale with score "1" for strong agreement and "5" for strong disagreement. Notice that the data tell the order, but not the distance between the ranks, although the median value has its meaning of neutrality. The many variables involved in the analysis are considered necessary to : -

1. penetrate into an empirical model, factors are isolated through analytical process using real data from a large variety of business to assure more validity,
2. reduce the deviation of expectation from the actual association,
3. minimize the inevitable multicollinearity in a linear regression equation.

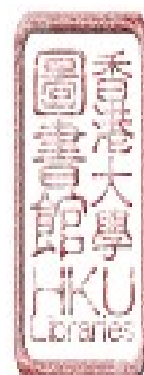




Table VI.1 STATEMENTS FOR EACH VARIABLE SET

	Ford	Pang	Cheng
I. Technical skill (variables C1-C9)	6	6	9
High technical competence	/	/	/
Consistent quality products	/	/	/
Detailed technical information	/	/	/
New technical solutions	/	/	/
Technical information ready	/	/	/
#Technical information inadequate	/	/	/
Satisfactory product appearance			/
Satisfactory product effect			/
Price sensitivity			/
II. Commercial skill (variables C10-C18)	7	8	9
Punctual deliveries	/	/	/
Commercial competence	/	/	/
Quick deliveries	/	/	/
Commercial information ready	/	/	/
#Salesmen's authority unclear	/	/	/
#Commercial information inadequate	/	/	/
#Difficult to get delvy info'n	/	/	/
Handle rush order		/	/
Price as excuse			/
III. Market commitment (variables C19-C24)	5	5	6
Willing to establish local stock	/	/	/
Instructions in own language	/	/	/
Documentations in own language	/	/	/
Service organization in country	/	/	/
#Salesmen nationals of suppliers*	/	/	/
Allowance for price bargaining			/
IV. Company commitment (variables C25-C29)	5	5	5
Follow up use of products	/	/	/
Favour existing customers	/	/	/
#Marketing to new customers	/	/	/
Salesmen quick to response	/	/	/
#Quotations take a long time	/	/	/
V. Distance (variables C30-C47)	12	12	18
Communication in writing	/	/	/
#Close personal contacts	/	/	/
Culture poses difficulty	/	/	/
#Trust suppliers to keep informed	/	/	/
Difficult to make personal friends	/	/	/
#We like dealing with	/	/	/
#Suppliers confidence in our info.	/	/	/
#Suppliers understand our problems	/	/	/
#Marketing by personal contacts	/	/	/
Suppliers not understand operation	/	/	/
Language differences make difficult	/	/	/

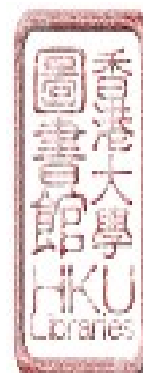
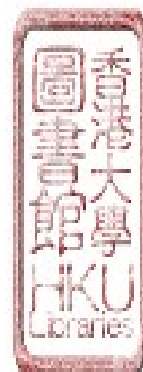


Table VI.1 STATEMENTS FOR EACH VARIABLE SET (Continued)

V. Distance (Continued)	Ford	Pang	Cheng
#Business based on mutual trust	/	/	/
Official festival gifts			/
Unofficial personal gifts			/
Very good reputation			/
Foreign firms better reputation			/
Face-to-face to reach agreement			/
Prefer face-to-face meeting			/
 VI. Adaptability (variables C48-C54)	 7	 7	 7
Del'vy based on buyers production	/	/	/
Willing to adapt products	/	/	/
Ready to change procedure	/	/	/
Accept reciprocal trading	/	/	/
Interested in Jt Product develop't	/	/	/
Coordinated production plans	/	/	/
#Persuade to accept product	/	/	/
 VII. Conflict (variables C55-C59)	 5	 5	 5
#Quick to handle complaints	/	/	/
Use far fetched excuses	/	/	/
Impossible to cooperate with	/	/	/
Problems in terms of payments	/	/	/
Irritated by complaints	/	/	/
 VIII. Market factors (variables C60-C66)	 0	 0	 7
Labour disputes			/
Export restrictions			/
Business fluctuations			/
Government policies			/
Wage difference			/
Exchange rates			/
National technical standards			/
 IX. Market activity (variables C67-C75)	 0	 0	 9
No. of people involved			/
Influencers in purchases			/
Limited power of prodn engrs			/
Strong power of design engrs			/
Formalized decision making			/
Limited power of clerks			/
Conflicts between departments			/
High level decisions			/
Importance of good price			/

# Scores may be reversed on these statements to provide consistency of "direction" within each variable set.



### 6.3 DATA ANALYSIS AND FORM OF PRESENTATION

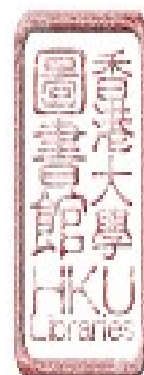
Data were manually checked for completeness and consistency. Any discrepancy traceable to the respondent was re-completed through the telephone, otherwise the reply was declared invalid. All valid data would then be analysed using canonical subprogrammes as detailed in Chapter Seven.

### 6.4. RESPONSE RATE

Out of the 168 questionnaires sent, seven of them were repeaters. Ninety four had declined. Eighty seven of the respondents had verbally confirmed that they sent back their replies (Table 6.1), but only 32 valid one from sellers and 27 from purchasers have ever reached their destination. Four failed to complete all questions, were not traceable and scrapped, and the rest were presumably lost in post.

Table VI.2      NUMBER OF RESPONDENTS BY CATEGORIES

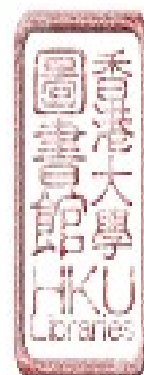
Property developers	1
Government departments	3
Public utilities	5
Institutions	10
Consultants	14
Trading companies	7
Contracting companies	50
Total number of respondents	87



The majority of the respondents have no experience except with Hong Kong. The reason is obvious : British products are still dominant, with Japanese, and US products in the second and third places. Chinese, Taiwanese, and Korean products are still considered not complying with the local standards (ref. Chapter Two). Only data on Hong Kong will be analysed and data collected for the other countries may be useful for cross-validation in future.

Three main reasons for replying were detected : -

1. Community spirit. These respondents returned their questionnaires without identifying the author,
2. Business relationship. These respondents got a call from the author and wished to maintain some forms of relationship with him,
3. Quid pro quo. These respondents either had previously received or immediately asked for return of favours from the author. Such favours ranged from the very trivial, e.g. an abstract of the thesis for their reference, to a sumptuous meal.

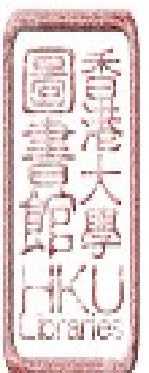


Some of the negative reactions from the respondents are worth noting : -

1. the questionnaire is too long, comprising 12 items on personal particulars, 75 items on relations for the five countries, and 82 items on marketing strategy continuum. An executive's first impression is that a reply to some 500 items cannot be possible in an hour. This scenario supports some researchers' finding that respondents' cooperation tends to increase as the number of items decreases. But in a complex research like this, fewer items will produce coarse measurements, which in turn lead to estimates of parameters that are extremely sensitive to unit changes in attitudes.

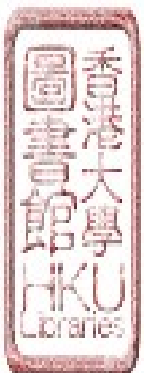
It is therefore advisable to retain all items in future but only survey one country at a time.

2. The questions are sensitive, hence even if anonymity is assured, Chinese CEOs not knowing the author intimately will still feel uncomfortable.
3. Many clients find most questions irrelevant, either because as clients in the private sector, they have delegated the full responsibility to professionals, or because as government officials, they have to follow strictly established procedures for tender,



4. Few respondents insist that they have never got the questions or their replies have gone astray. It is difficult to check because of assured confidentiality.
5. A few give the excuse of "too busy" to attend to an academician's whims,
6. A handful simply ask their secretaries to keep the author at bay.

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### 7.1. DATA PROFILE

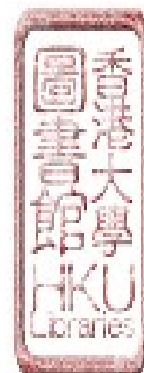
A total number of 27 valid responses have been received from purchasers and the corresponding figure is 32 from suppliers. Scores are based on a five-point interval scale with score "1" representing "strongly agree" and "5" representing "strongly disagree". Scores on those statements marked with an asterisk may be reversed if desired to provide consistency of direction within each variable set.

### 7.2 CRITERIA TO JUSTIFY RESEARCH RESULTS

Three fundamental criteria are often used to justify research results:

1. theoretical check

- i. an assessment of the quality of the model. Chapters I & II describe in some details the theory of the Interaction Approach, and its mapping onto the structure and function of the E&M industry. The author has tried his best to be objective in his description of the industry, but can hardly claim to be completely detached. Some of the author's own observations may be validated or reneged by results from this project.



- ii. the results should be in accordance with theoretical expectation or well-known empirical facts, e.g. a positive correlation between relationship and sales turnover will be logical,
- iii. linearity of the model; since linearity is assumed in a regression analysis, the correlation may NOT be significant if linearity does not exist beyond certain limits.

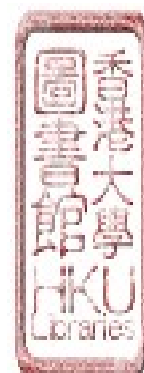
## 2. predictive check.

When causal relationship is involved, the forecasting performance of the model is more important than the statistics criteria, which may be in conflict with forecasting performance. But as this project is not about causal relationship, this criterion may be ignored.

## 3. statistical checks.

Statistical checks can be both very exhaustive and very exhausting if sophisticated canonical analysis softwares such as "CANCORR" by SAS are used.

For simplicity, data were first analysed by using "IBM AS" canonical analysis (see Chapter III above) programme at the Business School, University of Hong Kong.





The full printout from "IBM AS" subprogramme will be explained in some details. This includes correlation matrix, eigenvalues, lambda, chi-square test, level of significance, canonical correlation coefficients and canonical weights.

The analysis is then supplemented by outputs on "the means and standard deviations" and on "redundancies analysis" using "PROC", CANCORR, version 6.7 by the SAS Institute Inc., at the Computer Centre of the University of Hong Kong. But results from both softwares will be presented in a logical order below.

### 7.3 MEAN AND STANDARD DEVIATION

This check provides an assessment of the homogeneity of the replies and the shape of the data distribution. Table VII.1 is on the means and standard deviations for the various statements in the questionnaire.

These mean scores generally indicate the consistency of direction of the perceptions of the two parties. Some of the bold-type figures in the table highlight the closeness in the responses from both buyers and sellers for many of the statements.



Table VII.1 MEANS AND STANDARD DEVIATIONS  
FOR EACH STATEMENTS

OUTPUT FROM "CANCORR"

Purchasers' (sellers') results	Mean	Standard Deviation
I. Technical skill (variables C1-C9)		
High technical competence	2.07 (2.65)	0.66 (1.31)
Consistent quality products	2.33 (1.84)	0.66 (0.75)
Detailed technical information	2.22 (3.31)	0.95 (1.21)
New technical solutions	2.59 (2.40)	0.99 (0.86)
Technical information ready	2.33 (2.12)	0.94 (0.64)
#Technical inform'n inadequate	2.77 (3.21)	0.91 (0.81)
Satisfactory product appearance	2.40 (2.40)	0.73 (0.82)
Satisfactory product effect	2.51 (2.21)	0.73 (0.64)
Price sensitivity	2.40 (2.34)	0.82 (0.77)
II. Commercial skill (variables C10-C18)		
Punctual deliveries	2.07 (1.65)	0.85 (0.47)
Commercial competence	2.00 (1.84)	0.66 (0.61)
Quick deliveries	2.00 (1.78)	0.81 (0.59)
Commercial information ready	2.11 (2.15)	0.68 (0.66)
#Salesmen's authority unclear	3.22 (3.75)	0.78 (0.75)
#Commercial inform'n inadequate	2.55 (4.03)	0.87 (0.58)
#Difficult to get delvy inform'n	2.51 (2.28)	0.83 (0.62)
Handle rush order	2.03 (2.09)	0.63 (0.97)
Price as excuse	2.77 (2.34)	1.03 (0.95)
III. Market commitment (variables C19-C24)		
Willing to establish local stock	2.11 (2.62)	0.68 (0.96)
Instructions in own language	1.81 (2.65)	0.61 (1.04)
Documentations in own language	2.00 (2.68)	0.90 (1.15)
Service organization in country	2.00 (2.46)	0.86 (1.11)
#Salesmen nationals of suppliers country*	1.81 (1.65)	0.81 (0.81)
Allowance for price bargaining	1.88 (2.00)	0.56 (0.66)
IV. Company commitment (variables C25-C29)		
Follow up use of products	2.88 (2.43)	1.03 (0.82)
Favour existing customers	2.03 (3.21)	0.63 (0.92)
#Marketing to new customers	2.59 (3.84)	0.73 (0.79)
Salesmen quick to respond	2.11 (1.71)	0.62 (0.44)
#Quotations take a long time	2.25 (3.90)	0.96 (0.76)
Communication in writing	3.14 (3.62)	1.04 (0.92)
#Close personal contacts	2.18 (1.75)	0.81 (0.55)
Culture poses difficulty	2.22 (2.78)	1.09 (0.92)
#Trust suppliers to keep informed	2.74 (2.75)	0.84 (0.70)

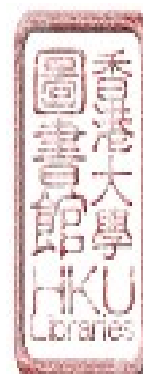
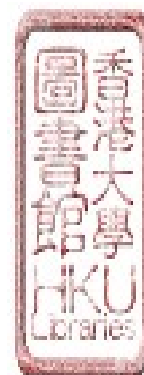


Table VII.1 MEANS AND STANDARD DEVIATIONS (continued)

V.Distance (variables C30-C47)			
Difficult to make personal friends	2.44 (2.34)	0.91 (0.73)	
#We like dealing with	2.07 (1.90)	0.53 (0.67)	
#Suppliers confidence in our info.	2.33 (2.09)	0.72 (0.57)	
#Suppliers understand our problems	2.22 (2.43)	0.68 (0.82)	
#Marketing by personal contacts	2.44 (2.40)	0.87 (0.78)	
Suppliers not understand operation	2.25 (3.37)	0.92 (0.81)	
Language difference make difficult	1.92 (2.62)	0.89 (0.99)	
#Business based on mutual trust	3.07 (2.87)	1.08 (1.02)	
Official festival gifts	3.25 (2.87)	1.14 (0.78)	
Unofficial personal gifts	3.55 (3.18)	1.00 (0.80)	
Very good reputation	2.44 (2.03)	0.62 (0.68)	
Foreign firms better reputation	3.25 (2.00)	1.10 (0.70)	
Face-to-face to reach agreement	2.51 (1.96)	1.06 (0.58)	
Prefer face-to-face meeting	2.18 (1.96)	0.77 (0.46)	
VI.Adaptability (variables C48-C54)			
Del'vy based on buyers production	2.29 (2.03)	0.76 (0.80)	
Willing to adapt products	2.29 (2.25)	0.85 (0.96)	
Ready to change procedure	2.33 (2.71)	0.81 (0.87)	
Accept reciprocal trading	3.33 (3.31)	1.38 (0.94)	
Interested in Jt Product develop't	3.25 (3.56)	1.37 (0.89)	
Coordinated production plans	3.25 (3.31)	1.32 (1.01)	
#Persuade to accept product	3.14 (2.28)	0.89 (0.79)	
VII.Conflict (variables C55-C59)			
#Quick to handle complaints	2.33 (1.71)	0.72 (0.44)	
Use far-fetched excuses	3.03 (3.12)	0.83 (0.64)	
Impossible to cooperate with	3.66 (3.84)	0.66 (0.66)	
Problems in terms of payments	3.85 (3.46)	0.75 (0.66)	
Irritated by complaints	3.48 (2.75)	0.68 (0.79)	
VIII.Market factors (variables C60-C66)			
Labour disputes	3.66 (3.68)	0.94 (0.68)	
Export restrictions	4.18 (4.25)	0.77 (0.61)	
Business fluctuations	3.70 (3.59)	1.04 (0.82)	
Government policies	4.14 (3.78)	0.75 (0.92)	
Wage difference	3.66 (3.09)	1.05 (1.07)	
Exchange rates	3.62 (3.25)	1.12 (1.03)	
National technical standards	3.74 (3.31)	1.14 (0.98)	
IX.Market activity (variables C67-C75)			
No. of people involved	2.48 (2.06)	0.78 (0.49)	
Influencers in purchases	2.40 (2.03)	0.82 (0.39)	
Limited power of prod'n engrs	2.51 (2.59)	0.63 (0.86)	
Strong power of design engrs	2.59 (2.40)	0.87 (0.86)	
Formalized decision making	2.18 (2.15)	0.66 (0.56)	
Limited power of clerks	2.96 (2.78)	0.79 (0.89)	
Conflicts between departments	2.92 (2.84)	0.85 (0.79)	
High level decisions	2.29 (2.21)	0.59 (0.64)	
Importance of good price	2.44 (2.00)	0.83 (0.55)	



#### 7.4 CORRELATION COEFFICIENT MATRIX

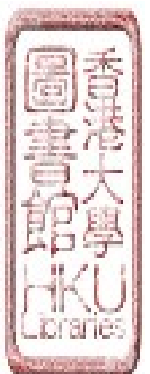
The correlation coefficient matrix shows correlations between the left-hand (Criterion) and right-hand (Predictor) groups. In constructing a meaningful model, this matrix provides a useful criteria, i.e. for a variable to be included in the model, at least one of the between-set correlation coefficients should be greater than 0.30; otherwise the variable should be disregarded as irrelevant.

It is also advisable but not necessary to reverse the within-set correlations so that as many large correlations as possible are in the same direction.

#### 7.5 LARGEST EIGENVALUES

Eigenvalue is interpreted as the proportion of variance of the X composite shared by the pair of composite Y and vice versa. As an example, the eigenvalue for the first root is 0.7968 ( $=0.8926^2$ ) in Table 1 Exhibit XII, then 79.68% of the variance in the criterion set is explained by the linear relation between the criterion and predictor composite sets.

If there are eigenvalues that are not between 0 and 1, the computer will show the following message "EIGENVALUES NOT IN THE RANGE ZERO AND ONE", as in the cases of the distance variables, Tables 3 & 10, Exhibits XII & XIII.



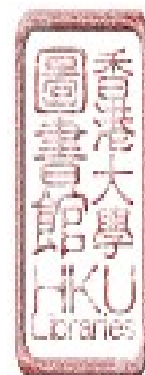
## 7.6 CANONICAL CORRELATION COEFFICIENT

The canonical correlation coefficient is simply the square root of the eigenvalue. It shows the correlation between the two composite sets and is analogous to a simple product moment (Pearson) correlation coefficient in a linear regression (cf. Chapter Three).

The first canonical correlation coefficient is substantially larger than the second and the third canonical correlation coefficients, and also than the coefficients of the between-group correlations shown in the correlation coefficient matrix. One is seldom interested in a complete canonical solution; rather, attention is likely to focus on the more salient canonical correlations and their associated composites subject to a significance test (cf. 7.6. ii below). In this project, only the first canonical correlation coefficients will be discussed because the second and the lower-order coefficients are much less salient as shown by the significance tests.

## 7.7. TESTS OF SIGNIFICANCE

The next four columns of the computer output give information on the statistical significance of canonical correlations.



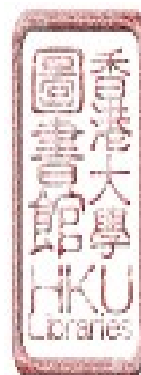
When sample size is smaller than thirty and when the population is large as in the case of consumer marketing research, canonical correlation analysis will tend to produce sampling error, and a high canonical correlation of the sample will not hold for the sampled population (cf. Chapter III).

Thus for sample sizes smaller than thirty, significance test is used as a minimum criterion to decide whether the canonical functions will serve as an estimation of the whole sampling frame or population.

Among the several methods available to test the statistical significance of relationship between the criterion and the predictor variable sets, chi-square test (attributable to Bartlett, 1938) is the most commonly used. Such test gives an indication whether the results are reliable and valid for the whole population, or whether they are caused just by chance.

#### i. The lambda test

This test shows whether the eigenvalues differ significantly from zero. When eigenvalues approach to zero, lambda values approach to unity; and when eigenvalues approach to unity, lambda values approach to zero. Thus lambda is a measure of the strength or the weakness of the canonical correlation.



### ii. Chi-square tests

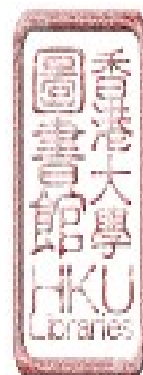
Chi-square values may then be computed from lambda for the degree of freedom and significance level. If these values exceed values in the chi-square distribution, the association between the two sets of variables may be by chance and the hypothesis is recommended to be rejected.

In industrial researches, however, it has been argued that the ratio of "sample to population" is much higher than consumer researches; therefore when the sample size is only about 30, the first order correlation coefficients may still have external validity even if the significance test says otherwise.

However, for the second and subsequent order roots in both consumer and industrial researches, the chi-square values will decrease rapidly, indicating that the remaining composites are not statistically significant; therefore, these composites will not be given serious considerations and discussions in this project.

### iii. Degree of freedom

The number of degrees of freedom of a statistic generally denoted by  $v$  is defined as the number  $N$  of independent observations in the sample (i.e. the sample size) minus the number  $k$  of population parameters which must be estimated from sample observations.



For a predictor set of 9 variables and criterion set of 6 variables,  $v'$  for the first root ( $k = 1$ ),  $v' = (9 + 1 - 1)(6 + 1 - 1) = 54$ , and  $v''$  for the second root ( $k = 2$ ),  $v'' = (9 + 1 - 2)(6 + 1 - 2) = 40$  from  $v = (M + 1 - k)(N + 1 - k)$ .

#### iv. Level of significance or point value

The point value gives the confidence limit, usually 0.95 and 0.90 (or the corresponding significance levels of 0.05 and 0.10), meaning that the hypothesis may be accepted with a confidence level of 0.05 or 0.10.

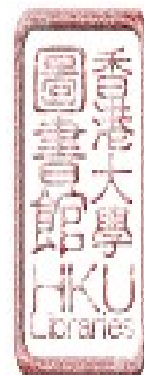
### 7.8. MATRIX OF CANONICAL WEIGHTS

The magnitudes of the canonical weights (variate coefficients) are indicative of the relative contribution of the original variables in composing the linear composites. These coefficients only appear when the correlations between the pair of composites are significant.

### 7.9 COMPARISON WITH PREVIOUS RESEARCHES

#### 1. Canonical Correlation Coefficients

Ford's (1984) canonical analysis of the IMP criterion and predictor groups of data produces some promising figures at the 0.05 level of significance, suggesting that there are significant associations between buyers' assessments of suppliers' technical and commercial skills, and the relational variables of market and customer commitments, adaptability, distance and conflict (Table VII.2).





For the first root, Pang can only find correlations for three out of the ten hypotheses at the 0.050 level of significance: they are commercial skill and distance (0.933), technical skill and market commitment (0.770) and technical skill and distance (0.844). Pang suggests that buyers' perceptions of the seller's commercial and technical skills are influenced by and related to sellers' commitment to the market and the distance. Pang's results further suggest that sellers can improve the image of their commitments to market by establishing local stock and service organizations, and by providing technical information in buyers' language.

At the 0.100 level of significance, one more of Pang's canonical correlation is found between the pair: commercial skill and market commitment (0.791). The rest of the canonical correlations are difficult to justify even at the 0.100 level of significance.

For this project, the first order canonical correlation coefficients are high at the 0.050 level of significance for technical skill and market commitment (0.8926), technical skill and customer commitment (0.9047), technical skill and market factor (0.9468), commercial skill and market commitment (0.9146), commercial skill and adaptability (0.9622).

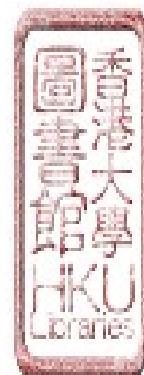
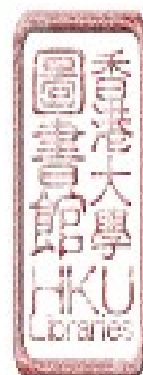


TABLE VII.2 THE FIRST CANONICAL CORRELATIONS

PREDICTOR SETS	CRITERION SETS	
	Technical skill	Commercial skill
Commitment to Market	Ford	.39 .0011
	Pang	.41 .0005
	Cheng	.791 .093
Commitment to Company	Ford	.8926 .0083
	Pang	.9146 .0300
	Cheng	.59 .0000
Distance	Ford	.710 .133
	Pang	.747 .189
	Cheng	.9047 .0274
Adaptability	Ford	.69 .0000
	Pang	.66 .0000
	Cheng	.844 .039
Conflict	Ford	.51 .0000
	Pang	.58 .0000
	Cheng	.659 .385
Market Factor	Ford	.9222 .0987
	Pang	.9622 .0071
	Cheng	.68 .0000
Market Activity	Ford	.73 .0000
	Pang	.672 .362
	Cheng	.8504 .0580
Market Activity	Ford	.8983 .0938
	Pang	.8884 .3590
	Cheng	.9502 .0947

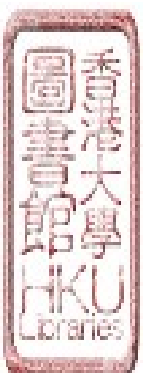


The high canonical correlation coefficient means that there is a strong relationship between a pair of composites (criterion and predictor) of the two original sets but not necessarily a strong relationship between the two original sets themselves.

At the 0.100 level of significance, high correlations are also found for technical skill and adaptability (0.9222), technical skill and conflict (0.8504), commercial skill and market factor (0.8983), commercial skill and market activity (0.9502).

At 0.100, there seem to be no correlations between technical skill and market activity, between commercial skill and customer commitment, between commercial skill and conflict.

The absence of eigenvalues for the technical/commercial skills and distance suggests that the relational variable of distance may be disregarded from the model.

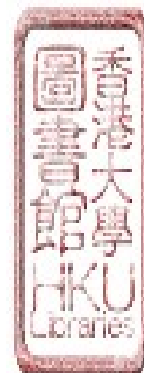


## 2. Redundancy Check

Canonical coefficients and eigenvalues represent variance shared by the two linear composites of the variable sets, not the original variables themselves. Thus a relatively strong canonical correlation may be obtained between two linear functions, even though these linear functions may not extract significant proportions of variance from their respective sets. Ford uses redundancy as a measure of the average relationship between the two sets of variables. The redundancy of two variable sets is a good measure of their shared variation and may be expressed as a percentage of the total variation in each set.

Besides the high canonical correlation coefficients, Ford also finds that all redundancies are significant at the 1% level except the one for technical skill and market commitment.

In view of the poor canonical correlation coefficients, Pang does not make any redundancy checks but recommends it to verify any hypotheses which have been established using the canonical correlation coefficients.



For this project, the "redundancies analysis" using "PROC", CANCORR, version 6.7, re-produced in Table VII.3 shows very high values, meaning that the proportion of variance in one set that is accounted for by the composite of the other set is very high.

In this descriptive model, the associations between the two sets of variables are strong. In other predictive models, the high values mean that the knowledge of the predictor (criterion) set will greatly contribute to the certainty about the criterion (predictor) set.

#### 7.10 DISCUSSIONS OF WEIGHTS

(Note: All tables in the following paragraphs refer to Exhibits XII and XIII)

##### TECHNICAL/COMMERCIAL SKILL AND MARKET COMMITMENT

The hypothesis is that there is a relationship between perceived technical/commercial skill and market commitment.

##### PURCHASERS' VIEWS

Technical Skill: Market Commitment ( $R = 0.8926$ ,  $p = 0.0083$ )

Table 1 shows that there is significant correlation at the 0.05 level of significance. The amount of variance shared by the two canonical variates is 79.7% (= squared R).

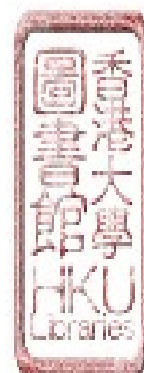


Table VII.3 REDUNDANCY MATRICES  
FOR PURCHASERS

Predictor Set	Criterion Set	
	Technical Skill	Commercial Skill
Market Commitment	0.3750 (0.0571*)	0.3720 (0.0710)
Customer Commitment	0.3831 (0.1433)	0.2643 (0.1368)
Distance	0.7524 (0.2444)	0.7808 (0.2042)
Adaptability	0.3983 (0.1321)	0.5424 (0.1506)
Conflict	0.3246 (0.2071)	0.3005 (0.2275)
Market factor	0.1822	0.2895
Market activity	0.3015	0.4356

N = 27

Ford's (1990) results are given in brackets

\*All except this value are significant at 1% level

Criterion Set	Predictor Set	
	Technical Skill	Commercial Skill
Market Commitment	0.5319 (0.0598)	0.5690 (0.0781)
Customer Commitment	0.4794 (0.1382)	0.3091 (0.1290)
Distance	0.4289 (0.1433)	0.4871 (0.1039)
Adaptability	0.4604 (0.1118)	0.6455 (0.1368)
Conflict	0.4727 (0.1907)	0.4944 (0.2262)
Market factor	0.4326	0.4246
Market activity	0.3662	0.3989

N = 27

Ford's (1990) results are given in brackets

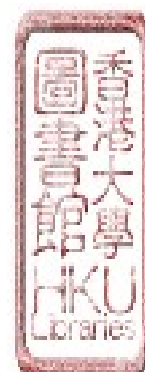
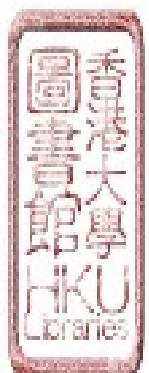


Table VII.4 REDUNDANCY MATRICES  
FOR SELLERS

Predictor Set	<u>Criterion Set</u>	
	Technical Skill	Commercial Skill
Market Commitment	0.2018	0.3869
Customer Commitment	0.2091	0.3417
Distance	0.6137	0.7649
Adaptability	0.2069	0.3186
Conflict	0.1648	0.2407
Market factor	0.2726	0.2016
Market activity	0.4743	0.3980
-----		
N = 32		

Criterion Set	<u>Predictor Set</u>	
	Technical Skill	Commercial Skill
Market Commitment	0.2677	0.4971
Customer Commitment	0.4366	0.4737
Distance	0.3825	0.3343
Adaptability	0.2895	0.3608
Conflict	0.2923	0.2547
Market factor	0.3924	0.2642
Market activity	0.4468	0.3454
-----		
N = 32		



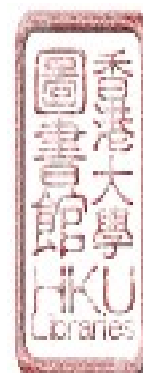
The canonical weights of the two variables sets show that buyers associate high technical skill with "consistent quality products" and "adequate technical information", and buyers perceive suppliers' technical skill as primarily reflected by their market commitment in their abilities to provide "instructions in own language" and secondarily, their willingness to negotiate "price" and sign "documentations in own language". By own language it should be emphasized that English is the official technical language in Hong Kong. Little importance is attached to "local stock" and "salesmen's nationality" because of the lead time required for project work and of the cosmopolitan views of CEOs.

Commercial Skill: Market Commitment ( $R = 0.9146$ ,  $p = 0.0300$ )

Table 8 shows that there is also significant canonical correlation at the 0.05 level of significance.

The amount of variance shared by the two canonical variates is 83.6%.

From the canonical weights, it can be deduced that buyers associate commercial skill with "ready commercial information", and "punctual deliveries". Almost identical to the case of technical skill/market commitment, buyers' perception of suppliers' market commitment is primarily in their provision of "native language documentations and instructions", and "allowance for price bargaining". The insignificance of "local stock" and "native salesmen" is consistent with findings in the above section.





## SELLERS' VIEWS

Technical skill: market commitment ( $R = 0.792$ ,  $p = 0.5085$ )

Table 21 shows that canonical correlation only exists at 0.51 level of significance, meaning that the association may arise by chance and can be ignored.

The canonical weights however provide some indication of the gap between purchasers and marketers as they view technical and commitment issues differently. To meet with buyers' needs, sellers should have placed more emphasis on "adequate technical information" and "price", but less on "salesmen's' nationality".

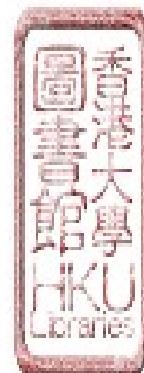
Commercial skill: market commitment ( $R = 0.8995$ ,  $p = 0.0017$ )

From table 28, there is strong canonical correlation at 0.05 level of significance and nearly 81% of the variance may be accounted for by the two composites.

Marketers' views on commercial skill are quite similar to purchasers' except on the "availability of delivery information". Marketers also view "local stocks" and "local service team" more important.

## TECHNICAL/COMMERCIAL SKILL AND CUSTOMER COMMITMENT

The hypothesis is that there is a relationship between perceived technical/commercial skill and customer commitment.



## PURCHASERS' VIEWS

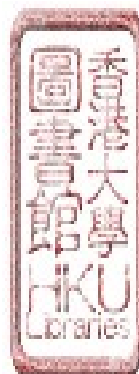
Technical Skill:Customer Commitment(R = 0.9047, p =0.0274)

Table 2 shows that there is also strong canonical correlation at the 0.05 level of significance. About 82% of the variance is shared by the two first canonical variates. From the canonical weights, it can be observed that sellers' technical skill is dominated by their "ready and adequate technical information","satisfactory product appearance" and product effects". Buyers are concerned to a lesser degree about "suppliers' technical competence". Buyers' perception of suppliers' "customer commitment" rests with their "preferential treatment of existing customers", their "follow-up actions" and "salesmen's quick response".

Commercial Skill: Customer Commitment(R = 0.8873, P = 49.5%)

Table 9 shows that there is no canonical correlation between commercial skill and company commitment at the 0.05 level of significance.

But some information can be derived from the first root weights. Commercial skill is seen as "commercial competence, ready commercial information" and "ability to handle rush order." While buyers perceive "salesmen's quick response as the key indication of company commitment".



## SELLERS' VIEWS

Technical skill: company commitment ( $R = 0.797$ ,  $p = 0.0264$ )

From table 22, there is a fair canonical correlation at better than 0.05 level of significance and 63.5% of the variance can be explained by the first root composites.

Contradictory to purchasers' expectations, marketers tend to ignore their commitment to "provide ready and adequate technical information" but value "new technical solutions". Marketers also believe "quick quotation" is crucial, but deny the power and hence the practice of "favoritism".

Commercial skill: company commitment ( $R = .8522$ ,  $p = 0.0012$ )

From table 29, there is a high canonical correlation at 0.05 level of significance, but only 72.6% of the variance is explained by the two composites.

Much great weight is attached to "punctual deliveries", "favouring existing customers", and "salesmen's quick response" for commitment to the customer.

## TECHNICAL/COMMERCIAL SKILL AND DISTANCE

The hypothesis is that there is a relationship between perceived technical/commercial skill and Distance.



## PURCHASERS' VIEW

### Technical Skill: Distance

### Commercial Skill: Distance

Tables 3 and 10 show that the eigenvalues for both hypotheses are not in the range of zero to one from the purchasers' view. There is some consistency that canonical correlations do not exist at all, suggesting that : -

1. In Hong Kong , CEOs have a cosmopolitan outlook and find issues other than technical and commercial skills of less importance,
2. Buyers dislike admitting that some of the social, cultural, and language distances and close personal relationship explicit in some of the statements are of any importance to business transactions.

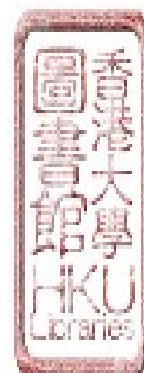
## SELLERS VIEWS

### Technical skill: distance (R =0.9912, p = .0000)

From table 23, there is very strong canonical correlation at about zero significance level, with over 98% of the variance explained by the two composites. Great weight is attached to "consistent quality products", "personal contacts" and "understanding of buyers' problems".

### Commercial skill: distance (R = 0.9887, p = 0.0000)

From table 30, very strong canonical correlation also exists at near zero significance level, with 97.8% variances shared by the two composites.



"Adequate commercial information", "punctual deliveries", "buyers' confidence in sellers' information", "face-to-face contact to reach agreement" and "reputation" are major contributors to reduce "distance".

#### TECHNICAL/COMMERCIAL SKILL AND SUPPLIER ADAPTABILITY

The hypothesis is that there is a relationship between perceived technical/commercial skill and supplier adaptability.

#### **PURCHASERS' VIEWS**

Technical Skill: supplier adaptability ( $R = 0.9222$ ,  
 $p = 0.0987$ )

Table 4 shows that there is no correlation at the 0.05 level of significance but a very strong canonical correlation at the 0.10 level of significance. Slightly over 85% of the variances is shared by the two canonical variates.

Technical skill is associated mainly with "ready and adequate technical information". Buyers perceive sellers' "adaptability" as their "willingness to adapt products" and "interest in joint product development".

Commercial Skill: supplier adaptability ( $R = 0.9622$ ,  
 $p = 0.0071$ )

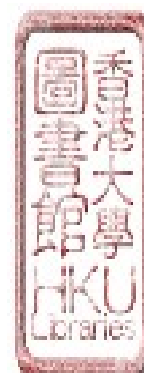


Table 11 shows that there is very strong canonical correlation at the 0.05 level of significance. About 92.6% of the variance is shared by the two canonical variates. Commercial skill is seen to be associated mainly with "ready delivery information", "punctual deliveries" and "commercial competence". Buyers perceive sellers' adaptability on their "interest to develop products jointly", and "to schedule delivery based on buyers' requirements". "A readiness to change procedures" is also considered important.

#### SELLERS' VIEWS

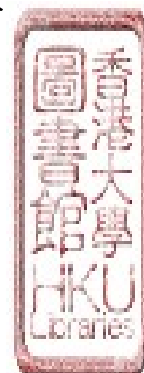
Technical skill: adaptability ( $R = 0.894$  ,  $p = 0.1918$ )

From table 24, there is no significant canonical correlation at even 0.10 level of significance, but at 0.1918 level, about 80% of the variance is shared by the two composites.

Greater weights are associated with "satisfactory product appearance", "readiness to change procedure" and "coordinate production planning". The "ability to provide new technical solutions" is seen as strongly unnecessary.

Commercial skill: adaptability ( $R = 0.8413$ ,  $p = 0.2608$ )

From table 31, there is only significant canonical correlation at 0.26 level of significance at which only 70.8% of the variance is explained by the first order composites.



Great weights are attached to "adequate and ready commercial and delivery information" for enhancing commercial skill. Marketers also see "adaptation of production procedures and of product" as important. While purchasers deny "reciprocal trading"; marketers, on the other hand, do anticipate some form of "quid pro quo".

#### TECHNICAL/COMMERCIAL SKILL AND CONFLICT

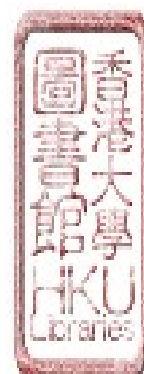
The hypothesis is that there is a relationship between perceived technical/commercial skill and conflict.

#### **PURCHASERS' VIEWS**

Technical Skill: Conflict ( $R = 0.8504$ ,  $p = 0.058$ )

Table 5 shows that there is moderately high canonical correlation at slightly higher than 0.05 level of significance, possibly because of the Chinese conviction of avoidance of confrontation at all times. Only 72.3% of the variance is accounted for by the two composites.

Much greater weight is attached to "detailed and adequate technical information" to ensure the absence of conflict. Buyers see suppliers' receptivity and ability to "handle complaints" of paramount importance to avoid conflicts.



Commercial Skill: Conflict ( $R = 0.8521$ ,  $P = 0.1311$ )

From table 12, again only moderately high canonical correlation exists at slightly higher than 0.10 level of significance, with 72.6% of the variance explained by the two composites.

Commercial skill is highly associated with "ready delivery information and commercial competence". Buyers rate sellers' "speedy handling of complaints" far more important than other abilities.

#### SELLERS' VIEWS

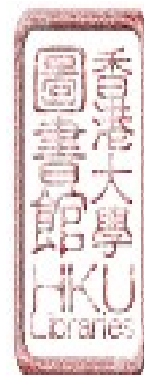
Technical Skill: Conflict ( $R = 0.7304$ ,  $P = 0.5091$ )

Table 25 shows that there is no canonical correlation even at 0.10 level of significance.

About equal weight is attached to "satisfactory product appearance" and "price". In sellers' opinion, "detailed and adequate technical information" contributes very little to minimize conflict, but sellers regard their "ability to handle complaints" of paramount importance to avoid disagreement.

Commercial Skill: Conflict ( $R = 0.7926$ ,  $P = 0.3154$ )

From table 32, there is no canonical correlation even at 0.10 level of significance.





If the weights are examined, commercial skill is highly associated with sellers' "ability to hand rush order" and "provide ready delivery and commercial information". Their "speedy handling of complaints" is also considered important.

#### TECHNICAL/COMMERCIAL SKILL AND MARKET FACTOR

The hypothesis is that there is a relationship between perceived technical/commercial skill and market Factor.

#### PURCHASERS' VIEWS

Technical Skill: Market Factor ( $R = 0.9468$ ,  $p = 0.0012$ )

There is a very strong canonical correlation at 0.05 level of significance and over 89.6% variance is explained by the two composites.

Technical skill is highly related to "adequate technical information", "satisfactory product appearance" and "price sensitivity". But buyers are somewhat averse to "new technical solutions". Buyers view "government policies" and to a much less extent "exchange rates" as the important contributors to "market factors". They are under the somewhat biased impression that "national technical standards" are not technically decisive factors in buying decisions.



Commercial Skill: Market Factor ( $R = 0.8983$ ,  $P = 0.0938$ )

Table 13 shows that canonical correlation only exists at about 0.10 level of significance for this hypothesis. About 80.7% of the variance is accounted for by the two composites.

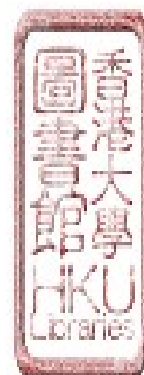
Commercial skill depends on "sellers' ability to deliver" and "provide delivery information quickly". Buyers view the absence of "exchange rate fluctuation" an advantage to the local suppliers. "National standards" are recognized commercially as adverse to the suppliers.

**SELLERS' VIEWS**

Technical Skill: Market Factor ( $R = 0.8398$ ,  $p = 0.0029$ )

Table 26 shows that there is a strong canonical correlation at 0.05 level of significance and over 70.5% variance is explained by the two composites.

Technical skill is moderately associated with "high technical competence", and "consistent quality products", but "product appearance" and "price sensitivity" are not regarded as important. Sellers place emphasis on market factors such as "labour disputes", "government policies", "exchange rates" and "national technical standards".



Commercial Skill: Market Factor ( $R = 0.8439$ ,  $P = 0.4417$ )

Table 33 shows that no canonical correlation exists at the 0.10 level of significance for this hypothesis.

If the weights are examined, commercial skill is dependent on sellers' "ability to deliver quickly", and to provide both "commercial and delivery information". Sellers view "wage difference" and "national technical standards" as adverse factors to commercial competence. "Government policies" and "business fluctuations" are the other two important contributors to market factors.

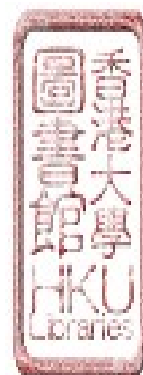
TECHNICAL/COMMERCIAL SKILL AND MARKET ACTIVITIES

The hypothesis is that there is a relationship between perceived technical/commercial skill and market Activities.

**SELLERS' VIEWS**

Technical Skill: Market Activities ( $R = 0.9269$ ,  $p = 0.0000$ )

From Table 27, there is very strong canonical correlation at 0.000 level of significance. Nearly 86% variance is accounted for by the two composites.

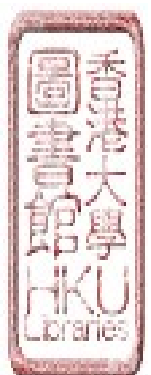


From the weights, technical skill in terms of mainly "price" and "technical information" is highly associated with market activities of the organization's "inter-department conflicts", "the number of people involved" and "the power of the production and design engineers".

Commercial Skill: Market Activities ( $R = 0.8478$ ,  $p = 0.3626$ )

From table 34, there is no canonical correlation even at 0.10 level of significance.

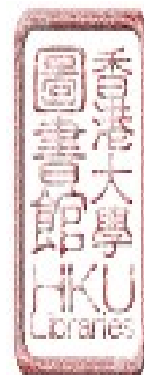
If the weights are examined, commercial skill is highly related to sellers' "ability to handle rush orders", and at a much lesser extent, to "commercial competence", "ready commercial information" and "clearly defined salesmen's authority". Commercial skill is highly associated with sellers' "organizational problems" such as weak clerical support, inter-department conflict, number of people involved and high-level decision, which can undermine their market activities.



### 7.11 CONCLUSIONS

Marketing strategy formulation requires an understanding of organizational buying behaviour (OBB) and its effect on buying decisions. This research uses Interaction Approach and Canonical Analysis to identify certain patterns of OBB. High values of canonical correlation coefficients and redundancies have been found for most of the ten hypotheses; suggesting a successful replication of the buyer/seller relationship model in a culture and an industry different from most earlier researches. This means that Hong Kong E&M industrial buyers' assessments of their local agents and suppliers are not based on the intermediaries' technical and commercial skills in isolation, but are closely associated with their assessment of the intermediaries' skills in developing a relationship with them. The notion that a strong industrial buyer/seller relationship exists in the Hong Kong E&M industry has also been statistically supported.

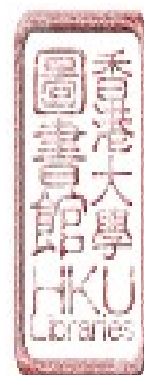
The major patterns of organizational buying behaviours recognized by the Interaction Approach also appear in the Hong Kong E&M industry. The presence of tactical relational variables is in addition to the four conventional marketing mix ingredients, dictating a balancing of economical and relational exchanges along the marketing strategic continuum.



While price and product quality dominate a buyer's decision in the commodity market, an examination of the variation in purchasers' perceived technical and commercial skills of E&M industrial suppliers shows their association with the variables of commitment, adaptation, conflict, distance, market factor and market activity.

Cox (1967) and later Roselius (1971) give explanations to such OBB patterns. They argue that during a purchasing situation, a buyer perceives risks in the form of uncertainty and consequences. Roselius suggests that "the overall perceived risks include performance risk, physical risk, social-psychological risk and time risk". In order to minimize such risks to an acceptable level, buyers will evaluate explicitly or implicitly their potential suppliers using the relational variables.

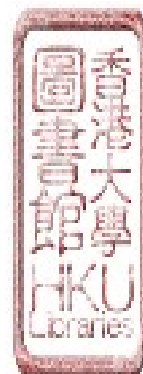
One peculiarity of the Hong Kong purchasing and marketing personnel is that they do not associate technical and commercial skills with the distance between them and their suppliers as in Ford's case. Otherwise the differences between Ford's and this research are a matter of degree, gauged by the varying weights attached to each of the relational variables.



Such distinctions may prove meaningful to other researchers in the region, who wish to study the effects of culture, education, training, attitude, characteristics, belief, experience of marketing/purchasing executives, and levels of needs and stage of economic development.

Another valuable piece of information is that the non-existence of cultural barriers (distance) to British products and local agencies, and the dearth of respondents' experience in the other four countries' products may signal "red" or "green" light to potential entrants into the E&M market.

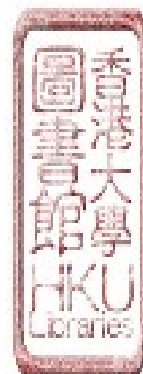
The simultaneous collection of data from purchasers and sellers provides a rare opportunity for the comparison between the two opposite views. In this project, the proven gap between their perceptions of the other party's needs dictates a change of strategies. In the case when purchasers have greater bargaining powers, sellers' failure to recognize buyers' needs is bound to be disastrous. It is vital for the sellers to alter their strategies to bridge any relationship gaps. As an example, sellers have overvalued their "sales activities" and undervalued the "importance of punctual delivery" to purchasers. In a different industry, should sellers have the upper hand, buyers in turn must revise their purchasing strategies to restore the balance of powers.



By exposing the most salient attitudes of marketing and purchasing executives, the research hopefully may also prove an important lesson for prospective importers to overcome some of the relational barriers, and for existing practisers in the industry to review and improve their formulation of marketing strategy, re-direct resources to cement better relationship, and open up new opportunities to their companies. Companies like Nike, Charparral Steel, Harley-Davidson, Lithonia Lighting, Benetton and parts of Motorola have successfully adopted a strategy called "networking", to build close, long-term relationships with customers, suppliers, subcontractors and distributors (The Economist, 10/10/1992 , Page 81).

As for the academicians, a careful analysis of the canonical weights may provide useful information for the purposes of management science study into the Interaction Model.

Finally it should be re-iterated that this research does not concern itself with a one-way causal relationship, -- as an example, whether or not a high degree of technical skill is caused by a high degree of customer commitment -- but is concerned with the question whether or not the different measures are associated closely with one other, i.e. whether there is any commonality between the ways in which suppliers' or buyers' skills are evaluated along the different dimensions.



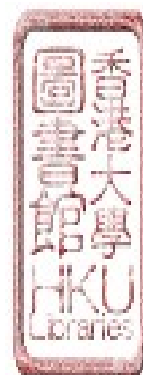


## 7.12 RECOMMENDATIONS FOR FUTURE RESEARCHES

Granting that the Interaction Approach has been fruitfully applied to the E&M industry in Hong Kong, there also exist certain constraints typical to any social science researches : -

1. when dealing with attitudinal variables, and not with quantitative ones as in science, finance, and production, it is always not easy to operationalize these attitudinal variables,
2. the proliferation of concepts and models sometimes make it difficult to justify the model in use,
3. unlike scientific researches, the environment is uncontrollable and therefore dynamic; the relationship is often non-linear, and the responses often lag much behind the stimulus,
4. it is almost impossible to isolate differences in ethnic background, income, trade factors, controls from the results,
5. another impossibility is how to check the congruence in the data supplied by the respondents, and to challenge "deception" during the reply.

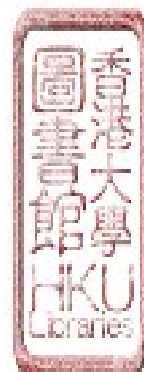
Some improvements are therefore suggested to be made to similar researches in future :-



1. Questionnaire design. Fitting a model is an interactive process, in which data, residuals and the judgment of the investigator combine to guide the course of analysis step by step. When the model is complex and involving many variables, a wise choice of variables for inclusion is of paramount importance.

The questionnaire originally designed for graphical presentation may appear inadequate for canonical analysis, therefore some statement items may create statistical problems, particularly multicollinearity as discussed in Chapter Three. Questionnaire may be redesigned also to reduce the length and the number of questions. To arouse cooperation, it is also recommended that respondents should be asked about one country at a time.

2. Sample size and segmentation. Although buyer-seller relationship will be a common feature in industrial markets, not all segments will exhibit the same degree of closeness in buyer-seller relationships. For example, both buyers and sellers in the public and private segments are often technical experts turned marketing/purchasing staff, but government purchasing activities are bonded by sophisticated procedures, therefore they do not share homogenous motivations in their pursuits of close relations.

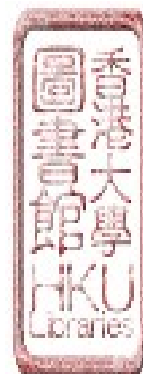


The homogeneity of the sample and the shape of the data distribution can be separately assessed using means and standard deviations, and an estimate of the correlation matrix for sub-dividing the data.

On the other hand the sample size even for a large sector like the specific E&M industry is already so small as to preclude further segmentation. In applying research results, the subtle distinction between the private and public sectors must therefore be allowed for.

The collaboration among several countries to research a specific industry as pioneered by the IMP group overcomes the problem of sample size.

3. Difficulties encountered in fieldwork. Redding has suggested various means to improve over the low response rates and quality of the collected data. Notice that the researcher's social status is crucial in soliciting cooperation.
4. Incisive interpretation of results. Canonical analysis though a powerful tool, has its vulnerabilities. Naive reliance on sophisticated computer program may lead to misleading or incorrect results, and to confusion rather than insight .



Since its successful use calls for an ability to match statistical theory with empirical knowledge of the structure and function of the systems, researchers should be well trained in the technique. Notice also that a relatively strong canonical correlation may be obtained between two linear functions, even though these composites may NOT extract significant proportions of variance from their respective variables. The use of redundancies test is necessary, but the advantage of a redundancies test may still be offset if only a small sample size is available.

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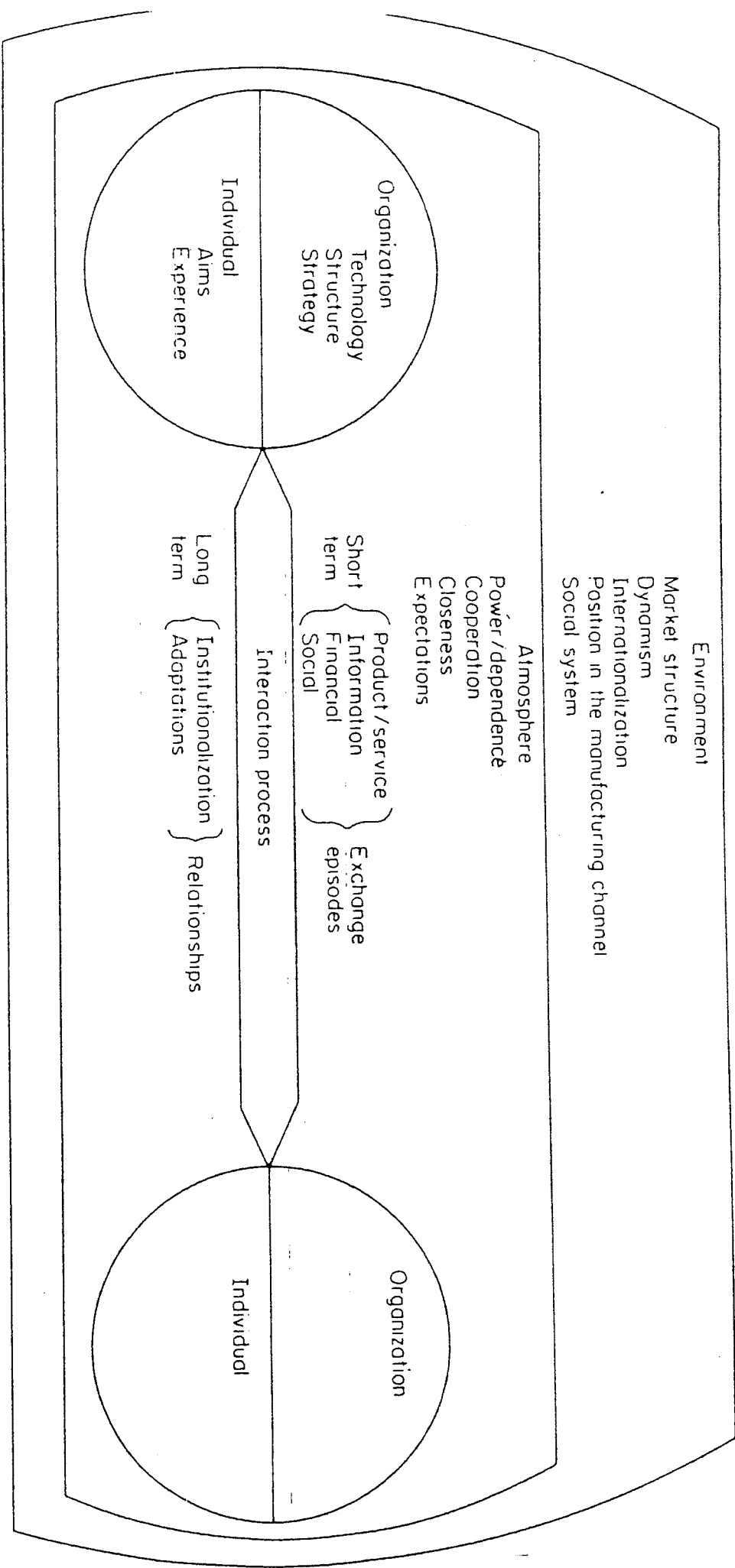


EXHIBIT 1. An illustration of the interaction model.

EXHIBIT II. IMP PROJECT GROUP OF RESEARCHERS AS AT 1980

France : Jean Paul Valla and Michel Perrin, Institut de  
Recherche de l'Entreprisein Lyon

Germany : Michael Kutschker, University of Munich

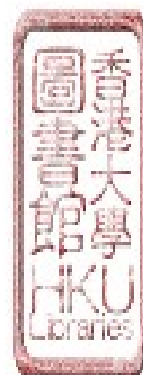
Italy : Ivan Snehota, Isvor-Fiat Institute in Turin

Sweden : Hakan Hakansson, Lars Hallen, Jan Johanson and  
Bjorn Wootz , University of Uppsala

UK : Malcolm Cunningham, Elling House

Peter Turnbull, University of Manachester in  
Science and Technology

David Ford, University of Bath



## EXHIBIT III.

## ELECTRICAL AND MECHANICAL SYSTEMS

Acoustical Design and Treatment  
Air-Conditioning and Mechanical Ventilation System  
Air Compressors and Compressed Air Services  
Boiler Plants and Auxiliaries  
Building Automations and Energy Management Systems  
Burglar Detection and Alarm Systems  
Calorifier Plants  
Central Control Systems  
Central Dictation Systems  
Central Vacuum-Cleaning Installations  
Clock Installations  
Cold Water Services  
Conveyer Installations and Equipment  
Cooling-Water Systems  
Electrical Distribution Systems, High and Low Voltages  
Electrical Lighting and Power Installations, including :  
    Lighting Luminaries, Electrical Sub-Station, Electrical Supplies, Incoming  
Environmental Control System  
Fire Detection and Alarm Systems  
Fire Protection Systems  
Food Preparation, Cooking, Conveying and Serving Equipment  
Generating Plant Installations  
Heating Installations  
Hot Water Services  
Laundry Equipment and Services  
Lifts, Hoists and Escalators  
Lightning Protection Systems  
Liquefied Petroleum Gas Distribution  
Medical Gas Services  
Medical Vacuum Systems  
Plumbing and Drainage Systems  
Public Address, Personnel-Location and Call Systems  
Pneumatic-Tube Conveying Systems  
Radio and Television Installations  
Refrigeration Installation and Cold Stores  
Refuse Collection and Disposal Systems, incl. Incineration  
Security System  
Signaling  
Sterilizing and Bedpan Washing or Disposal Equipment  
Street Lighting  
Swimming Pool and Filtration Plant  
Telecommunications  
Telephone Equipment and Distribution Systems  
Thermal Insulation  
Town Gas Incoming Supply and Distribution  
Traffic Control and Surveillance  
Vibration Control  
Waste Management  
Water Treatment and Filtration

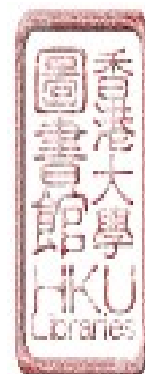


EXHIBIT IV. MARKET CAPITALIZATION OF HK STOCK EXCHANGE  
AS AT JUNE, 1992

TOTAL MARKET CAPITALIZATION : HK\$ 1,389,225,648,142.00  
TEN LARGEST GROUP SHARES : HK\$ 740,841,000,000.00

	NO.OF SHARES millions	PRICE HK\$	AMOUNT HK\$ m
<b>K.S. LI FAMILY</b>			
Cheung Kong	2,198	26.20	57,587
Hutchison Whampoa	3,048	17.70	53,949
HK Electric	2,020	19.20	38,784
Cavendish	2,899	5.35	15,509
(11.94% of total market)			165,829
<b>KESWICK FAMILY</b>			
Jardine	666	65.00	43,290
HK Land	2,687	13.60	36,543
Jardine Strategy	945	26.90	25,420
Jardine (pref.)	-	-	-
Dairy Farm	1,635	12.70	20,764
Mandarin	678	6.65	4,508
Jardine Automobile	477	8.30	3,959
(9.68% of total market)			134,484
<b>SWIRE FAMILY</b>			
Swire A	971	36.75	35,684
Swire B	3,083	6.05	18,652
HAECO	185	22.80	4,218
Cathay	2,865	12.10	34,666
(6.71% of total market)			93,220
<b>K. C. NG FAMILY</b>			
Wharf Holding	2,049	8.65	17,723
Kowloon Wharf	2,098	17.80	37,344
Harbour	315	7.80	2,457
Trust A	368	10.70	3,937
Trust B	252	1.92	483
Allied A	202	20.30	4,100
Allied B	106	3.45	365
Allied	29	15.80	458
Lane Crawford A	67	12.70	850
Lane Crawford B	466	1.14	531
HK Tunnel	127	17.80	2,260
(5.08 of total market)			70,508





**KWOK'S FAMILY**

Sun Hung Kai Property	1,818	36.25	65,902
Kowloon Motor Bus	404	9.55	3,858

(5.02% of total market) 69,760

**KADORIE'S FAMILY**

China Light & Power	1,659	34.25	56,820
HK & S Hotel	987	6.55	6,464
Tai Ping Carpet	97	4.80	465

(4.59% of total market) 63,749

**S.K. LI'S FAMILY**

Henderson Property	1,596	19.70	31,441
Henderson	2,274	4.20	9,550
HKYF	220	7.40	1,628
Towngas	1,308	13.40	17,527

(4.33% of total market) 60,146

**K.C. CHAN'S FAMILY**

Hang Lung	1,144	12.10	13,842
Amoy Property	2,259	6.25	14,118
Grand Hotel A	622	2.30	1,430
Grand Hotel B	600	0.223	133

(2.13% of total market) 29,523

**Y.T. CHENG'S FAMILY**

New World Development	1,529	19.30	29,509
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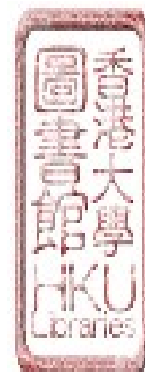
(2.12% of total market) 29,509

**GORDON WU'S FAMILY**

Hopwell	4,306	5.60	24,113
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(1.74% of total market) 24,113

HK Economic Journal, 1/7/1992



## EXHIBIT V. BIVARIATE RELATIONSHIPS

To determine relationships between two or more variables, collection of data is the first step. The corresponding values, called raw scores, can be arranged in sets. For two sets of variables, let X and Y represent say the price and sales turnover. On a two-dimension coordinate system with X as the horizontal and Y as the vertical axes, a scatter diagram can be plotted. It is desirable to express their relationship in mathematical form by determining an equation. The equation, known as the linear regression of raw scores Y on raw scores X, may be written as : -

$$Y = A + BX \quad E5.1$$

Using the method of least square to solve for A and B,

$$B^2 = \frac{N (\sum xy) - (\sum x)(\sum y)}{N(\sum x^2) - (\sum x)^2} \quad E5.2$$

$$A = \bar{y} - B\bar{x} \quad E5.3$$

where B is called weights or regression coefficient,

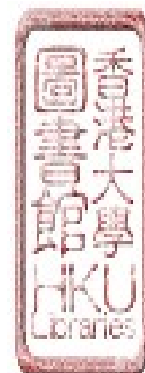
$\sum$  is the sum of the variables x,y as indicated,

A is called the interception.

If all the raw scores of X, and Y are transformed to standardized scores (z-scores) using the formulas : -

$$Z_x = \frac{x_i - \bar{x}}{s} \quad E5.4$$

$$s^2 = \frac{\sum (x_i - \bar{x})^2}{N} \quad E5.5.$$



The linear equation then becomes 
$$Y = \frac{\sum xy}{\sum x^2} X \quad \text{E.5.6}$$

The product moment formula for linear correlation coefficient, or simply the coefficient of correlation is given as

$$r = \frac{\sum xy}{(\sum x^2)(\sum y^2)} \quad \text{E.5.7}$$

If  $r = +1$  or  $-1$ , then  $B_{xy} = B_{yx}$ , there is perfect correlation, the two regression lines (of z-scores Y on X, and of z-scores X on Y) are identical.

If  $r = 0$ , there is no correlation between X and Y, and the two regression lines are at right angles.

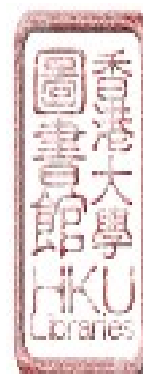


EXHIBIT VI. TRIVARIATE ANALYSIS (I.H. Bernstein, 1987)

For one dependent Y and two independent  $X_1$  and  $X_2$  variables, the linear relationship

$$Y = A + B_1X_1 + B_2X_2$$

can still be plotted on a three-dimension rectangular coordinate system, but the linear regression of Y on X will be a plane (two-dimensional) instead of a line (one-dimensional).

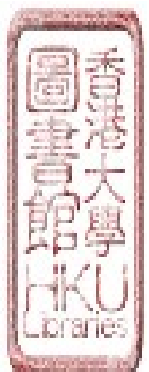
Each one of the variables in the set is intercorrelated with itself (self-correlation,  $r_{ii}=1$ ) and with each of the remaining variables, (between-set correlation,  $r_{ij}$ ) to give a symmetric matrix of correlation coefficient, R.

For one dependent set of variables Y and another independent set of variables X, the linear relationship cannot be plotted easily, and must be solved using matrix notation.

For example, the hypothetic responses from ten shoppers to five interview questions may be given by the raw data below. (Garbin, 1988)

TABLE E6.1 X set Matrix based on raw scores of  $X_1 \dots X_5$ ,

SHOPPERS	RESPONSES, $X_{ij}$				
1	4	4	4	5	7
2	7	5	6	6	4
3	3	3	5	4	4
4	4	4	5	7	8
5	4	4	2	4	2
6	6	4	5	5	4
7	2	2	1	2	3
8	4	7	5	3	5
9	5	4	6	5	6
10	3	4	2	2	2
means x	4.2	4.1	4.1	4.3	4.5
std deviatn, s	1.5	1.3	1.8	1.6	2.0



After standardization the same matrix becomes Table E6.2

TABLE E6.2 X-set Matrix based on z-scores after standardization

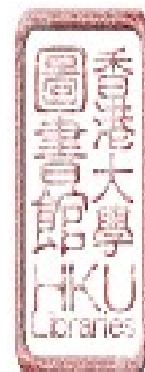
SHOPPERS	RESPONSES, $Z_{ij}$				
1	-0.14	0.08	-0.06	0.43	1.24
2	1.90	0.70	1.06	1.04	-0.25
3	-0.81	-0.85	0.50	-0.18	-0.25
4	-0.14	-0.08	0.50	1.65	1.74
5	-0.14	-0.08	-1.17	-0.18	-1.24
6	1.22	-0.08	0.50	0.43	-0.25
7	-1.49	-1.63	1.73	-1.41	-0.74
8	-0.14	2.25	0.50	-0.79	0.25
9	0.54	-0.08	1.06	0.43	0.74
10	-0.18	-0.08	-1.17	-1.41	-1.24

A typical calculation for  $Z_{ij}$  is shown below,

$$Z_{11} = \frac{x_{11} - \bar{x}}{s} = \frac{4 - 4.2}{1.5} = -0.14$$

TABLE E6.3 VARIANCE-COVARIANCE SYMMETRIC MATRIX (RAW-SCORE)

	2.18	0.87	1.87	1.60	0.56
	0.87	1.66	1.10	0.30	0.50
C =	1.87	1.10	3.21	2.07	2.17
	1.60	0.30	2.07	2.68	2.28
	0.56	0.50	2.17	2.28	4.06



Typical calculations of  $C_{ij}$  is given by the formula : -

$$C_{ij} = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{N - 1}$$

$$C_{11} = \frac{(4 - 4.2)(4 - 4.2) + (7 - 4.2)(7 - 4.2) + \dots + (3 - 4.2)(3 - 4.2)}{(10 - 1)}$$

$$= 2.18$$

$$C_{12} = \frac{(4 - 4.2)(4 - 4.1) + (7 - 4.1)(5 - 4.1) + \dots + (3 - 4.2)(4 - 4.1)}{(10 - 1)}$$

$$= 0.87$$

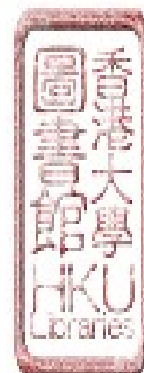
TABLE E6.4 INTERCORRELATION SYMMETRIC MATRIX (RAW-SCORE)

	1.00	0.46	0.71	0.66	0.19
	0.46	1.00	0.48	0.14	0.19
R =	0.71	0.48	1.00	0.71	0.60
	0.66	0.14	0.71	1.00	0.69
	0.19	0.19	0.60	0.69	1.00

TYPICAL CALCULATION OF  $R_{ij}$  USING TABLE E6.3

$$r_{ij} = \frac{C_{ij}}{S_i S_j}$$

E.6.2.



$$r_{11} = \frac{2.18}{1.5 \times 1.5}$$

$$= 1.0$$

$$r_{12} = \frac{0.87}{1.5 \times 1.3}$$

$$= 0.46$$

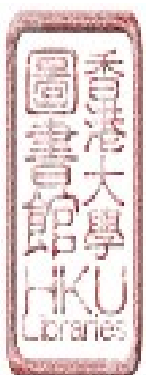


EXHIBIT VII. A THREE-VARIABLE EXAMPLE (Aker, 1971, pp.156-158)

Assuming that the regression equation for predicting Achievement (A) from Potential (P) and Interest (I) is to be derived in the form of :

$$Y_a = B_p X_p + B_i X_i + A \quad (\text{raw scores}) \quad E7.1$$

or  $Z_a = B_p Z_p + B_i Z_i \quad (\text{z-scores}) \quad E7.2$

given that

the means of the variables,  $A_m$ ,  $P_m$  and  $I_m$  are 45, 57, and 70 and their standard deviations,  $S_a$ ,  $S_p$  and  $S_i$  are 10, 12 and 15 respectively. From the raw scores collected, standard scores  $z$  are derived using E5.4. The correlation coefficients,  $C_s$ , have been calculated from  $z$ -score as follows : -

	A	P	I
A	1.00		
P	0.60	1.00	
I	0.40	0.30	1.00

The weights from  $z$ -scores are given by the formula : -

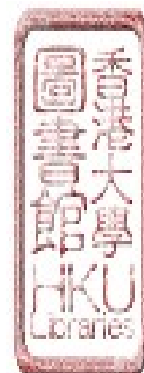
$$B_p = \frac{r_{ap} - r_{ai} r_{pi}}{1 - r_{pi}^2} \quad E7.3$$

$$= \frac{0.6 - 0.4 \cdot 0.3}{1 - 0.3^2} = 0.53$$

and

$$B_i = \frac{r_{ai} - r_{ap} r_{pi}}{1 - r_{pi}^2}$$

$$= \frac{0.4 - 0.6 \cdot 0.3}{1 - 0.3^2} = 0.24$$





Therefore the regressions equation based on standard score is

$$Z_a = 0.53 Z_p + 0.24 Z_i \quad E7.2'$$

The weights based on the raw scores are given by the formula:

$$\begin{aligned} B_p &= B_p * \frac{S_a}{S_p} \\ &= 0.53 * \left( \frac{10}{12} \right) = 0.44 \\ B_i &= B_i * \frac{S_a}{S_i} \\ &= 0.24 * \left( \frac{10}{15} \right) = 0.16 \end{aligned}$$

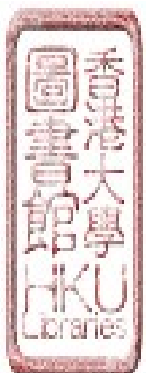
$$\begin{aligned} \text{The intercept} &= A_m - ( B_p * P_m + B_i * I_m ) \\ &= 45 - ( 0.44 * 57 + 0.16 * 70 ) \\ &= - 8.72 \end{aligned}$$

Therefore the regression equation based on raw score is

$$Y_a = 0.44P + 0.16I - 8.72 \quad E7.1'$$

The multiple correlation coefficient is given as

$$\begin{aligned} R_{a,pi} &= ( B_p r_{ap} + B_i r_{ai} )^{0.5} \\ &= ( 0.53 * 0.6 + 0.24 * 0.4 )^{0.5} \\ &= 0.644 \end{aligned}$$



The multiple correlation of 0.644 is only slightly higher than the best bivariate correlation,  $r_{ap}$ , of 0.6. This means that Interest adds very little to Potential as a predictor of Achievement. However the squared values of the two correlations are 41.4% and 36%, meaning that Potential accounts for 36% of the variance in Achievement, whereas Interest, when used in the composite, only accounts for an additional 5.4% of the Achievement variance.

The standard error of estimate is

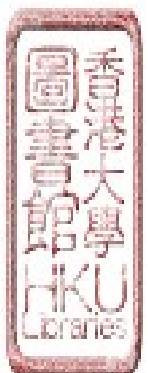
$$\begin{aligned} S_{a,pi} &= S_a (1 - R_{a,pi}^2)^{0.5} \\ &= 10 (1 - 0.644^2)^{0.5} \\ &= 7.65 \end{aligned}$$

This means that on the average the predictions will be in error by about 7.65 units.

The correlations of variables with the composite are :-

$$r_{pa'} = \frac{r_{pa}}{R_{a,pi}} = \frac{0.6}{0.644} = 0.93 \quad E7.4$$

$$r_{ia'} = \frac{r_{ia}}{R_{a,pi}} = \frac{0.4}{0.644} = 0.62 \quad E7.5$$



The following table shows the substantial differences between the Beta weights and correlations of the variables with the composite

Variables	1	P	I	
	1			
B weights	1	0.53	0.24	E7.2'
correlation	1	0.93	0.62	E7.4/7.5

That is to say, the variable P correlates 0.93 and the variable I correlates 0.62 with the composite Z'a

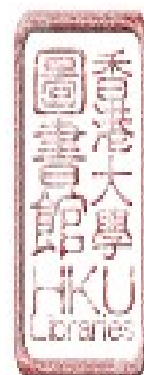


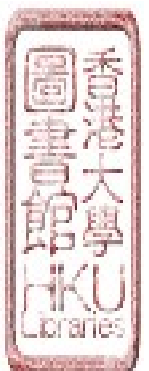
EXHIBIT VIII. MULTIPLE CORRELATION (Aaker, 1971, pp. 167-173)

This example comes from some industrial psychological data collected by Dr. John Sauer. The variables, their means and standard deviations for a sample of 130 men are given as:

=====

TABLE E8.1 MEANS AND STANDARD DEVIATIONS FOR  
18 BIOGRAPHICAL AND 4 OCCUPATIONAL VARIABLES

VARIABLE NAMES	MEAN	SD
1. Length of residence in USA	100.39	114.90
2. Age	30.34	6.89
3. Years of education	15.88	1.53
4. High school GPA	2.50	0.73
5. High School size	290.62	309.01
6. Class standing	28.89	19.64
7. Number HS offices held	1.84	0.86
8. Years of college	3.89	1.66
9. Time on subsequent courses	5.82	13.76
10. Home owned	1.61	0.49
11. Time at present residence	33.30	48.74
12. Number of children	3.2	1.54
13. Birth order	1.72	1.18
14. Weight	177.09	19.45
15. Height	71.26	2.34
16. Number of organizations joined	1.74	1.80
17. Ultimate salary desired	45.29	36.28
18. Level of aspiration	1.09	0.48



A. Level of occupation	2.60	0.96
B. Tenure	46.17	64.95
C. Salary	10.92	7.29
D. Supervisory	1.00	0.87

Based on the above means and standard deviations, z-scores were computed from the raw scores, and the correlations necessary for the multivariate analysis are given in Table E8.2. Notice that all decimal points have been omitted and that only the lower triangle of the symmetric correlation matrix is presented.

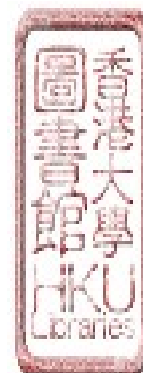
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TABLE E8.2      SYMMETRIC CORRELATION MATRIX (Z-SCORES)

=====

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	100												
2	02	100											
3	-06	02	100										
4	00	13	12	100									
5	-09	-16	03	-13	100								
6	05	00	-07	-16	04	100							
7	-10	-19	19	12	-02	-06	100						
8	-18	18	75	11	-02	00	21	100					
9	00	13	13	17	00	04	00	12	100				
10	-07	-47	00	04	18	00	11	-10	11	100			
11	22	56	-06	22	-15	08	-06	05	01	-35	100		
12	02	-05	-05	03	-18	-09	01	-03	-06	02	-06	100	
13	-05	-11	09	-05	-01	-05	06	-04	-01	-15	06	35	100
14	14	-02	-12	00	01	05	04	-16	-05	-14	05	11	17
15	-03	-26	-06	07	10	-02	-03	-13	03	09	-12	16	09
16	05	45	22	17	-09	02	07	16	16	-31	34	-06	09
17	-15	-20	01	12	00	-06	07	-08	08	12	-09	07	16
18	00	-21	12	-02	19	-01	06	02	09	19	-03	15	23
C	09	38	00	21	-01	10	-04	-04	12	-24	38	00	08
Bz	04	27	08	13	08	12	03	-19	03	-10	15	02	02
Bc	00	29	40	128	00	04	24	-85	02	-150	02	08	14
rx <sub>y</sub> '16	16	68	00	38	-02	18	-07	-07	21	-43	68	00	14

=====



```

-----
      14  15  16  17  18  A  B  C  D
14  100
15   65  100
16   17 -14  100
17   09   19 -01  100
18   22   33   02  43  100

C   11   01   35   13           100 (salary)
Bz -05   07   16   14   08           (Beta weights)
Bc -02   63   03   03  120   intercept A = - 2234
rxy' 20   02   62   23   18           (component loadings)
=====

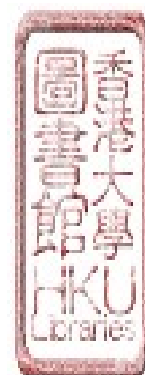
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If the 18 predictors are to correlate with only one criterion, say salary (C), the regression equations can be deduced according to the procedures in Exhibit V with some modifications discussed below.

When there are more than two predictors to be dealt with, there are only two changes that must be made in what has been stated in the previous exhibits : -

1. It is necessary to have one dimension for each variables, therefore it is necessary to think in terms of hyperspaces as diagrams cannot be drawn.
2. The predictors cannot be solved by equations as before, instead, matrix algebra must be used and equations solved by a computer. Therefore if R is a matrix of correlations among the predictor variables, and if c is a vector of correlations of the predictors with the criterion, then the vector of Beta weights, B, is given by the equation ( Cooley and Lohnes, 1971) :

$$B = R^{-1} * c$$



Once the vector of B is available, the z-score equations becomes

$$Zy' = B_1*Z_1 + B_2*Z_2 + B_3*Z_3 + .....B_m*Z_m$$

$$Zc' = .04*Z_1 + .27*Z_2 + .08*Z_3 + .....0.08*Z_{18}$$

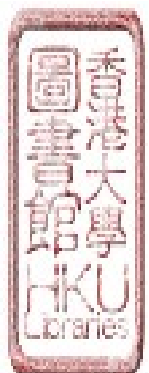
From these Beta weights, it can be seen that age (for which  $B_z = 0.27$ ) makes the largest independent contribution to the composite that is maximally related to salary. The positive sign indicates that older men tend to earn higher salaries. On the other hand, years of college education has a negative Beta weight (-.19), meaning that those men with more education tend to earn lower salaries!

Other Beta weights of modest sizes indicate that higher high school GPA and class standing, longer time at present residence, being a member of more organizations, and having higher ultimate salary desired, all lead to a higher present salary in that they make positive contributions to the predictor.

The accuracy with which the composite defined by the Beta weights predicts salary is given by the multiple correlation,

$$\begin{aligned} R_{y,x_1...x_{18}} &= ( Bx_1*ryx_1 + Bx_2*ryx_2 + Bx_3*ryx_3 + \\ &\quad .....Bxm*ryxm)^{0.5} \\ &= (0.04*0.09 + 0.27*0.38 + .....+ 0.08*.10)^{0.5} \\ &= 0.56 \end{aligned}$$

$$R^2 = 31\%$$



This means that the 18 predictor variables are able to account for 31% of the variances in salary, and the standard error of estimate is found by : -

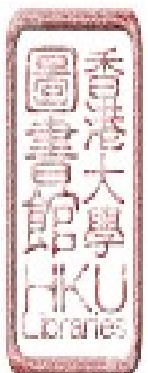
$$\begin{aligned}
 S_{Y, X_1 \dots X_{18}} &= S_Y (1 - R^2)^{0.5} \\
 &= 7.29 * (1 - .31)^{0.5} \\
 &= 6.06
 \end{aligned}$$

The z-score equation yields the raw score regression equation by changing the  $Bx_i$  to  $Bx_i$  using the formula  $Bx_i = Bx_i \left( \frac{S_Y}{S_{X_i}} \right)$

$$\begin{aligned}
 C' &= 0.04 * \left( \frac{7.29}{114.9} \right) X_1 + 0.27 * \left( \frac{7.29}{6.89} \right) X_2 + 0.08 * \left( \frac{7.29}{1.53} \right) X_3 \\
 &\dots\dots\dots + 0.08 * \left( \frac{7.29}{0.48} \right) X_{18} + A
 \end{aligned}$$

$$= 0 * X_1 + .29 * X_2 + .4 * X_3 + \dots\dots\dots + 1.2 X_{18} - 22.34$$

The raw-score regression weights, also given in the table E8.2 just below the Beta weights, do not tell much about the relative contributions of the different variables to the prediction of salary, because predictor variables with very small standard deviations will receive quite large B weights even when their Beta weights are modest. Thus the B weights are convenient for prediction, but they are useless for description.





The component loadings,  $r_{xy'}$ , best describe the correlations of scores on the predictor variables with the composite,  $Y'$ , that is the best predictor of the criterion,  $Y$  (Cooley and Lohnes, 1971).

$$r_{xiy'} = \frac{r_{xiy}}{R_{y, x_1 \dots x_m}}$$

The resulting values appear in the last row of Table E8.2.

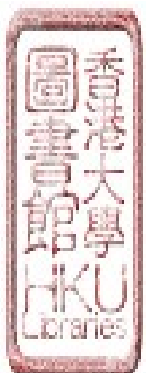
A comparison of the Bz weights with the component loadings reveals that the two methods for describing the composite, although yielding similar results, are not in complete agreement. One prominent example of this discrepancy between the two is the variable "years of college." Its Bz weight (-0.19) is the second largest in absolute value; however, its component loading of -0.07 is quite small and would not be considered important for describing the composite. That is, the variable makes one of the larger contribution to the variance of the composite by means of its Bz but is almost unrelated to the composite in terms of that variable's correlation with the composite. The strange state of affairs occurs because the predictor variable is almost unrelated to the criterion.

The answer to the question of which indices are better to use to describe the composite depends on what one means by description.



If one wishes to describe the composite in terms of the contributions the predictor variables make to its variance, then the Bz weights are appropriate.

If on the other hand, one wishes to describe the composite in terms of its correlations or relationships with the observed variables, then the component loadings should be used.



# EXHIBIT IX. CANONICAL ANALYSIS

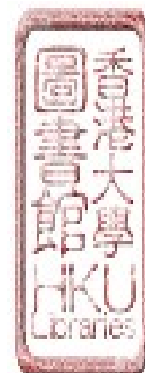
The basic canonical correlation model consists of two sets of variables X and Y, each is composed of several variables,  $x_1, x_2, \dots, x_p$  and  $y_1, y_2, \dots, y_q$ ; i.e. there are p variables in the X set and q variables, in the Y set. For each of the N respondents, his (p + q) scores on each of the variables in the X and Y sets can be displayed as a data matrix in table E9.1.

TABLE E9.1 FORM OF STANDARDIZED DATA FOR CANONICAL ANALYSIS

Respondents	X variables				Y variables			
	$x_1$	$x_2$	...	$x_p$	$y_1$	$y_2$	.....	$y_q$
1								
2								
3								
.			X set				Y set	
.								
.								
.								
N								

TABLE E9.2 SQUARE SYMMETRIC MATRIX OF CORRELATION COEFFICIENTS, R

	$x_1$	$x_2$	$x_3$	....	$x_p$	$y_1$	$y_2$	$y_3$	....	$y_q$
$x_1$										
$x_2$										
$x_3$										
.		Rxx				Rxy				
.										
.										
.										
$x_p$										
$y_1$										
$y_2$										
$y_3$										
.		Ryx				Ryy				
.										
.										
.										
$y_q$										

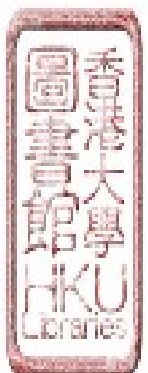


Each of the  $(p + q)$  variables is then intercorrelated with each of the remaining variables, producing a  $(p + q)$  by  $(p + q)$  square symmetric matrix of correlation coefficients,  $R$ . The coefficients computed are conventionally called the Pearsonian product moment coefficient (PPMC),  $r$ .

$R_{xx}$  and  $R_{yy}$  show the correlations within the sets  $X$ ,  $Y$ , and  $R_{xy}$  and  $R_{yx}$  show the inter-set correlations between the variables.

The implicit assumptions in the use of Pearsonian  $r$  are : -

1. the level of measurement of the data is interval, i.e., equal differences in recorded scores represent equal differences in the possession of the measured trait, or at least the analyst is prepared to assume that the data approximate interval properties,
2. the population correlations and covariance matrices are positively definite, i.e., all principal diagonal minors are greater than zero,
3. data is normally distributed for the applicability of those tests of statistical significance which have been developed for the canonical correlational model, and
4. the relationships among variables and sets of variables are linear. No attempt will be made to explain non-linear computational routines although the topic has been covered in various social statistics texts.



The square symmetric matrix of correlation coefficients,  $R$ , can be partitioned into four sub-matrices,  $R_{xx}$  and  $R_{yy}$  containing the correlation coefficients among variables in the  $X$  set and  $Y$  set respectively, and  $R_{xy}$  and  $R_{yx}$  the correlation coefficients of each of the variables in one set with each of the variables of the other set. By the symmetry property of the matrix,  $R_{xy}$  equals the transpose of  $R_{yx}$ , and vice versa.  $R_{xx}$  and  $R_{yy}$  are the pattern of interdependencies within each of the sets, and  $R_{xy}$  and  $R_{yx}$  are the pattern of correlations across the two sets.

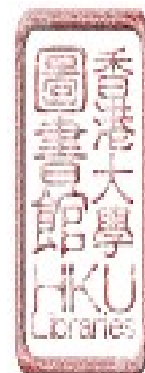
The analysis of the latter pattern can be accomplished by pairing a linear combination, called composite, of the  $X$  variables and one of the  $Y$  variables.

$$\text{i.e. composite } X_i' = a_1x_1 + a_2x_2 + \dots + a_px_p$$

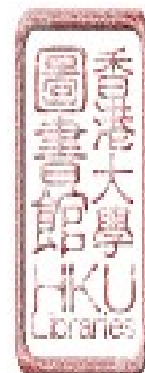
$$\text{and composite } Y_i' = b_1y_1 + b_2y_2 + \dots + b_qy_q$$

where  $X_i'$  and  $Y_i'$  are also called the canonical variates, and  $a_1, a_2, \dots, a_p$  and  $b_1, b_2, \dots, b_q$  are constants, or weights.

A pair of linear combinations of this type will have many solutions. Of the infinite number of possible pairs for each set, the values of the  $a$  and  $b$  constants are chosen by canonical analysis such that the correlation coefficient ( $r_{x_i, y_i}$  between  $X_i'$  and  $Y_i'$ , is the maximum possible value, ie. the resultant composite  $X_i'$  of the  $X$  set variables is maximally correlated with the composite  $Y_i'$  of the  $Y$  set variables. Thus  $X_i'$  represents that combination of the  $X$  set variables which has the highest correlation with any combination of the  $Y$  set variables; and  $Y_i'$  is that combination of  $Y$  variables maximally correlated with any  $X$  combination.



Having isolated  $X_i'$  and  $Y_i'$ , there is no assurance that there is only a single pair of linear combinations which are highly related to each another, there may be other combinations, say  $X_{ii}'$  and  $Y_{ii}'$ ,  $X_{iii}'$  and  $Y_{iii}'$ . Thus the next step is to locate that pair of combinations which have the second highest correlation. This next pair must be uncorrelated with the first pair to produce statistically independent patterns of linkage between the X and Y variable sets. Subsequent pairs of combinations, each pair necessarily having a smaller canonical correlation than the preceding pair but the highest possible at its generation may continue to be located, until the number of pairs,  $n$ , reaches the smaller of the number of variables in the sets, i.e. until  $n = p$  if  $p < q$ , then whatever linkage there is between the two X and Y sets of the original variates has been captured by the  $p$  pairs of composites and their interdependencies. When all the statistically significant pairs of composites linking the X and Y sets of variables have been extracted, the correlation matrix in Table E7.2 can be replaced with the matrix of intercorrelations among composites as shown in Table E7.3. Of the infinite number of linear combinations of the two sets of variables, particular pair can be found to be most highly related to each other. The correlation coefficient between  $X'$  and  $Y'$  is termed a canonical correlation coefficient,  $r_c$ .



The conditions can be summarized as follows:-

For the pair of composites

$$X_i' = a_1x_1 + a_2x_2 + \dots + a_px_p$$

$$Y_i' = b_1y_1 + b_2y_2 + \dots + b_qy_q$$

$$\text{mean } (x') = \text{mean } (y') = 0 \text{ for all } n$$

$$\begin{aligned} \text{standard deviation } (x') &= \text{standard deviation } (y') \\ &= 1.0 \end{aligned}$$

$$r_{x_i,x_j} = r_{y_i,y_j} = r_{x_i,y_j} = 0 \text{ if } i \neq j$$

$$r_{x_i,y_i} = \text{maximum across all possible sets of } a\text{'s and } b\text{'s}$$

given the constraints of independence (orthogonality).

Since the original X and Y variables are in z-score form, the a's and b's are standardized weights.

At this point, the several sets of information available are: -

1. the new variates, (i.e.  $x_i, x_{ii} \dots x_p$  and  $y_i, y_{ii} \dots y_q$ ) formed by the appropriate utilization of the weights ( $a_1, a_2 \dots a_p, b_1, b_2 \dots b_q$ ) derived from the z-score (standardized) from the original raw data, contain all the between-set interdependence originally in the data.
2. each pair of the computed composites ( $X_i, Y_i; X_{ii}, Y_{ii}; \dots X_p, Y_p$ ) is correlated from the report of the canonical correlation coefficients,  $r_{ci}, r_{cii}, \dots r_{cp}$ .

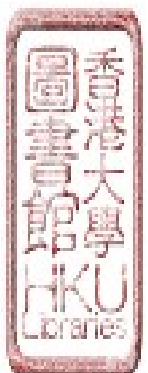
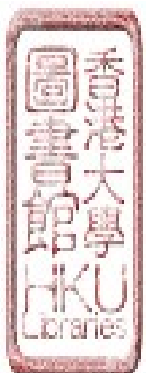


TABLE E9.3 MATRIX OF CANONICAL CORRELATIONS,  $r_c$

COMPOSITES	$X_i$	$X_{ii}$	..... $X_p$	$Y_i$	$Y_{ii}$	.....	$Y_p$
$X_i$	1	0	..... 0	$r_{ci}$	0	.....	0
$X_{ii}$	0	1	..... 0	0	$r_{cii}$	.....	0
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
$X_p$	0	0	1	0	0		$r_{cp}$
$Y_i$	$r_{ci}$	0	..... 0	1	0	.....	0
$Y_{ii}$	0	$r_{cii}$	..... 0	0	1	.....	0
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
$Y_p$	0	0	.... $r_{cp}$	0	0	.....	1

---

The interpretation of the composites is simply to look at what goes into their compositions. Specifically, this would imply 1. reviewing the matrix of weights, the a's and b's, which represent the direct contribution of each of the original variables to the composites. This seems an obvious suggestion but can be misleading and dangerous. The most crucial question is multicollinearity, the condition of intercorrelated predictors, which implies that the confidence intervals around the coefficient will be broad, and that one variable may hide or suppress the importance of a second variable correlated with the first. When two variables are closely correlated with each other, once one of the two has made its contribution to the composite, the other has no additional autonomous contribution to make. The first variable's coefficient will be high, the second one will be nearly zero, i.e. suppressed by the first.





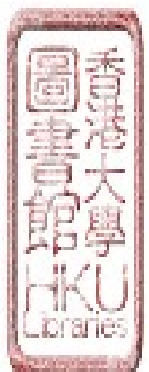
But since  $R_{xx}$  and  $R_{yy}$  matrices will contain some subsets of at least moderately intercorrelated variables, interpretation based on the matrix of weights will hold in the vast majority of cases.

2. alternatively, a source of substantive interpretation is to review the content of the variates via the correlations of the original variables with the composites. The use of this approach to substantive interpretation recognized that the composite is a manifestation of some abstract notion and that information about the nature of this abstract phenomenon cannot be achieved directly--but can be acquired indirectly by asking what is related to it.

Let  $A$  = the matrices of weights ,  $a_{i1}, a_{i2}, \dots, a_{ip}$   
 $B$  = the matrices of weights,  $b_{i1}, b_{i2}, \dots, b_{ip}$   
 $X$  = the matrices of X-set, the z-score data,  
 $Y$  = the matrices of Y-set, the z-score data,  
 $X_n$  = the matrices of composites,  $a_1 x_{i1} + a_2 x_{i2} +$   
 $\dots + a_p x_{ip}$   
 $Y_n$  = the matrices of composites,  $b_1 y_{i1} + b_2 y_{i2} +$   
 $\dots + b_q y_{iq}$

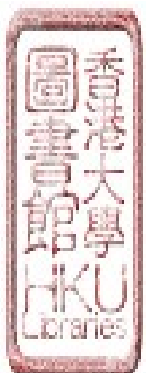
By definition,

$X_n = X * A$  ( post-multiplying the z-score matrices )  
 ( X and Y by the matrices of weights A )  
 $Y_n = Y * B$  ( and B produces the composite matrices )



Let  $S_x$  or  $S_y$  = the canonical structure matrix, being the matrix  
of correlations of the original variables of a  
given set with the canonical variates of that set

then  $S_x = R_{xx} * A$  ( the structure matrix can be obtained by )  
( pre-multiplying the matrices of weights )  
 $S_y = R_{yy} * B$  ( by the appropriate matrix of within set )  
( correlations )



## EXHIBIT X. SUMMARY OF TERMINOLOGY

### BIAS

Bias results when

1. samples are not representatives e.g. non-respondents' view omitted
2. faulty interview or questionnaire design
3. improper statistical technique

### CANONICAL ANALYSIS

Canonical analysis is a technique for finding the correlations between one set of variables, taken as a predictor set, and a second set of variables, taken as a criterion set. This may be contrasted with multiple correlation analysis, in which the correlation of a set of independent variables, taken as a set, is found with a single external dependent variable. All other regression analysis can be considered as a special case of canonical analysis :- partial correlation, stepwise regression, discriminant analysis

### CANONICAL COMPONENT LOADING

Canonical component loading, also known as canonical structure coefficient, gives the correlation between the composite of the set and a variable within that set.

THE SQUARED CANONICAL COMPONENT LOADING represents the proportion of variance linearly shared by a variable with the variables' canonical composite.

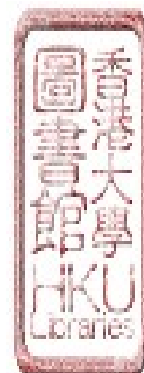
### CANONICAL CORRELATION COEFFICIENT

The canonical correlation coefficient is the variate correlation between the criterion composite and the predictor composite.

SQUARED CANONICAL CORRELATION COEFFICIENT gives the percentage of total variance in the first criterion composite attributable to variations in the first predictor composite set.

### CANONICAL VARIATES ( = COMPOSITES )

Canonical variates are linear combinations of observed variables so constructed as to maximize the correlation coefficient between the resulting pair of composites. The linear combinations using the best possible weights are called canonical variates, also known as composites, canonical scores, linear composite scores, and canonical components.



### CANONICAL WEIGHTS

A composite for each variable set is computed to maximize the relationship between the two variable sets by weighting each variable and then summing the weighted scores in each variable set. These weights may be positive or negative and are analogous to the beta weights in a regression analysis.

### COEFFICIENT OF CORRELATION

Correlation is a measure of how well a given line describes the relationship between two variables in a quantitative manner. Coefficient of Correlation is calculated from the raw data as

$$r_{xy} = \left( \frac{\sum (X - \bar{X}) (Y - \bar{Y})}{\sqrt{\sum (X - \bar{X})^2 \sum (Y - \bar{Y})^2}} \right)^{0.5}$$

this is a standardized measure of covariance, so that two correlations can be compared. The value,  $r_{xy}^2$ , gives the percentage of points that the linear equation accounts for. e.g. if  $r_{xy} = 0.95$ , then  $r_{xy}^2 = 0.9$ , i.e. then the linear equation only accounts for 90% of the points.

### CORRELATION

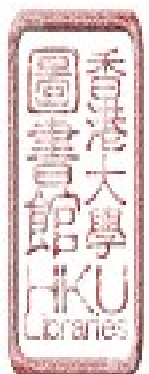
Correlation measures the degree of linear association between two or more variables whose values are uncontrolled or random. The values of one variables with the values of the other variable are compared and a linear relationship between them are derived. The correlations is positive when the larger values for both variables occur together. In other words as one increases, the other increases also. The correlations is negative when the large values for one variable occur with the small values of the other variable. In other words as one increases, the other also decreases.

### CORRELATION MATRIX

A symmetric matrix of the inter-variable correlation coefficients.

### EIGENVALUE

In a two-dimension space, the scatter plot of raw data is inside an elliptically shaped envelope, with the major and minor diameters  $E_1$  and  $E_2$ , which describe how much information has been accounted for in the correlation matrix



## MATRIX A

A symmetric matrix of reduced rank equal to the number of variables in the smaller of the two variables set is then derived from the intervariable correlation matrix. The EIGENVALUES\* of matrix A is computed giving a squared canonical correlation coefficient, which indicates the proportion of variance that the two composites derived from the two variable sets linearly share.

## MODEL

Model can be viewed as an hypothesis about the way the world operates, In the most general sense, it is a collection of statements about the way in which certain variables are causally related to one another. A good model should : -

- i. account for all relevant and important variable, but not too complicated,
- ii. be an abstraction form the real process, so as to focus and not divert attention on these variables to make the model useful in solving real problems,
- iii. be mathematical if possible to give the advantage of unambiguity and algebraic manipulation.

## MULTI-COLLINEARITY

Multi-collinearity arises when in a multiple regression computation, the independent variables are correlated and difficult to separate the individual effect.

## MULTI-REGRESSION

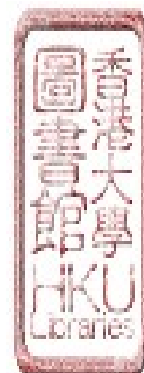
An extension of the simple regression principles to allow the effects of more than one independent variables to be taken into account at the same time.

## REGRESSION ANALYSIS

Regression analyses is used to assess whether two or more variables are related and to determine the nature and extent of this relationship. Linear regression is the simplest kind; others are multiple linear regression, stepwise regression, polynomial regression, and two-stage least squares regression.

Assumptions are

1. errors are randomly distributed
2. omission of an independent variables which is related to or correlated with an included variable. The coefficient of the included variable will represent the impact of the omitted variable when constructing the model.
3. the model is linear or approximately so



## STANDARDIZED SCORE ( Z-SCORE )

Most computer programmes in their operations, assume that all raw data collected have been first transformed into z-score, to have a mean of zero and standard deviation of one.

## MATRIX TERMINOLOGY (Bernstein, 1987)

1. DATA MATRIX (X) which contains raw scores for subjects (rows) on different variables (columns).
2. Z-SCORE MATRIX (Z) in which the columns (ordinarily) of X are transformed to z-scores (normalized or standardized).
3. SQUARE MATRIX which has as many columns as rows.
4. SYMMETRIC MATRIX which is a square matrix where the element in the *i*th row and *j*th column equals the element in the *j*th row and *i*th column, such as a correlation matrix.
5. VARIANCE-COVARIANCE MATRIX which contains variances along the major diagonal and covariances off the major diagonal.
6. DIAGONAL MATRIX which is a matrix whose off-diagonal elements are all zero.

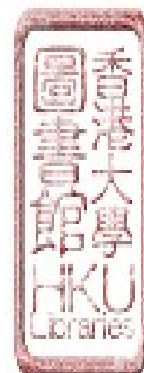


EXHIBIT XI.

SAMPLING PLAN BY THE CENSUS & STATISTICS DEPARTMENT  
FOR THE 1991 MANPOWER SURVEY  
OF THE ELECTRICAL INDUSTRY, VOCATIONAL TRAINING COUNCIL

Branch I

Manufacturers of electrical and associated products  
including: - ( sample size over number of establishments  
173/768 )

Electrical industrial machinery and  
apparatus ( HSIC: 3851 )

Electrical appliances and houseware ( not relevant to)  
( HSIC: 3865 ) ( this project )

Dry batteries ( HSIC: 3866 ) ( not relevant )

Torch bulk ( HSIC: 3867 ) ( not relevant )

Electrical apparatus & suppliers not  
elsewhere classified ( HSIC: 3872 )

Branch II

Contractors dealing with electrical equipment  
and systems including :-  
(sample size over number of establishments 607/5484)

Electrical wiring and fitting  
( ISIC: 5611 )

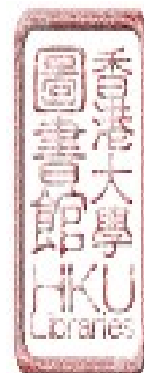
Lift and escalator installation  
( ISIC: 5612 )

Air-conditioning and ventilation  
systems installation ( ISIC: 5613 )

Fire alarm and fighting equipment  
installation ( ISIC: 5614 )

Cold Storage ( ISIC: 7195 )

Electrical repairs shops ( ISIC: 9512 )



Branch III

Service companies of the electrical industry  
including :  
(sample size over number of establishments, 60/60)

Public utility companies and public  
bodies

Relevant government departments

Educational institutions

E&M consulting engineering firms

Major trading companies of electrical  
equipment and systems, and their  
associated workshop

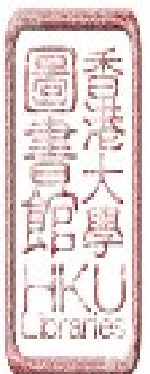




EXHIBIT XII. COMPARISON BETWEEN HK AND EUROPE BUYERS

TABLE 1 Canonical analysis, technical skill-- market commitment

Ford's buyers' figures in brackets

	canonical coefficients	
	1	2 ( # )
Technical skill ( C1-C9 )		
High technical competence	-.2729 (.46)	-.4389 ( - )
Consistent quality products	.6672 (.66)	.5932 ( - )
Detailed technical information	.0064 (.50)	.1924 ( - )
New technical solutions	-.3271 (.36)	.0015 ( - )
Technical information ready	-.4207 (.90)	.1653 ( - )
Technical information adequate*	.5802 (.35)	-.0817 ( - )
Satisfactory product appearance	-.3196 ( - )	.1648 ( - )
Satisfactory product effect	-.5474 ( - )	-.0191 ( - )
Price sensitivity	.2690 ( - )	-.2015 ( - )
Market commitment ( C19-C24 )		
Willing to establish local stock	-.1700 (.25)	.1237 ( - )
Instructions in own language	.8432 (.72)	-.2080 ( - )
Documentations in own language	.2845 (.58)	-.3586 ( - )
Service organization in country	.1602 (.86)	.8335 ( - )
Salesmen nationals of suppliers country*	.0762 (-.12)	-.3295 ( - )
Allowance for price bargaining	.3842 ( - )	.0977 ( - )
Canonical R	.8926 (.39 )	.8595 ( - )
Chi square	82.02 (30.3)	53.33 ( - )
Degrees of freedom	54 (10)	40 ( - )
Probability	.0083 (.0011)	.0772 ( - )

(# in Ford's research, only one root was significant at the 5% level)

\* reversed scores

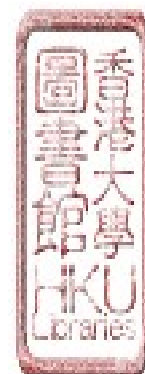


TABLE 2 Canonical analysis, technical skill--company commitment

Ford's buyers' figures in brackets

	canonical coefficients	
	1	2
Technical skill ( C1-C9 )		
High technical competence	.5454 (.49)	-.3580 (-.18)
Consistent quality products	-.4316 (.58)	.0640 (.60)
Detailed technical information	-.0414 (.45)	-.3895 (.56)
New technical solutions	-.2985 (.34)	.3638 (-.10)
Technical information ready	1.1858 (.96)	.7531 (-.16)
Technical information inadequate*	-1.1814 (.65)	-.0887 (.08)
Satisfactory product appearance	1.0388 ( - )	.2700 ( - )
Satisfactory product effect	.7763 ( - )	-.2646 ( - )
Price sensitivity	-.2854 ( - )	-.9309 ( - )
Company commitment ( C25-C29 )		
Follow up use of products	.4645 (.04)	-.7883 (.47)
Favour existing customers	.7539 (.57)	.4473 (.77)
Marketing to new customers*	.1933 (.82)	.2592 (-.27)
Salesmen quick to respond	.3800 (.68)	.0399 (.10)
Quotations take a long time*	.1848 (.12)	.3314 (.06)
Canonical R	.9047 ( - )	.7927 ( - )
Chi square	64.85 (82.5)	33.29 (22.3)
Degrees of freedom	45 (10)	32 (8)
Probability	.0274 (.0000)	.4043 (.0050)

\* reversed scores

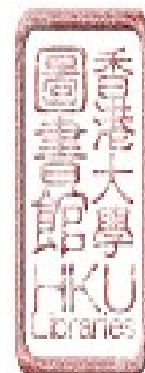


TABLE 3 Canonical analysis, technical skill-- distance

EIGENVALUES NOT IN RANGE ZERO TO ONE

Ford's buyers' figures in brackets

	canonical coefficients	
	1	2
Technical skill ( C1-C9 )		
High technical competence	(.54)	(-.35)
Consistent quality products	(.69)	(.55)
Detailed technical info'n	(.61)	(.22)
New technical solutions	(.41)	(-.03)
Technical info'n ready	(.83)	(-.39)
Technical info'n inadequate*	(.69)	(-.02)
Satisfactory product appearance	( - )	( - )
Satisfactory product effect	( - )	( - )
Price sensitivity	( - )	( - )
Distance ( C30-C47 )		
Communication in writing	(.17)	(.46)
Close personal contacts*	(.04)	(.23)
Culture poses difficulty	(-.56)	(.56)
Trust suppliers to keep informed*	(-.29)	(.70)
Difficult to make personal friends	(-.14)	(.50)
We like dealing with*	(-.12)	(.29)
Suppliers confidence in our info'n*	(-.74)	(-.14)
Suppliers understand our problems *	(-.10)	(.31)
Marketing by personal contacts*	(-.53)	(.05)
Suppliers not understand operation	(-.74)	(.08)
Language differences make difficult	(-.39)	(.20)
Business based on mutual trust*	(-.13)	(.17)
Official festival gifts	( - )	( - )
Unofficial personal gifts	( - )	( - )
Very good reputation	( - )	( - )
Foreign firms better reputation	( - )	( - )
Face-to-face to reach agreement	( - )	( - )
Prefer face-to-face meeting	( - )	( - )
Canonical R	(.69)	(.40)
Chi square	(117.7)	(32.64)
Degrees of freedom	(17)	(15)
Probability	(.0000)	(.0061)

\* reversed scores



TABLE 4 Canonical analysis, technical skill-- adaptability

Ford's buyers' figures in brackets

	canonical coefficients	
	1	2
Technical skill ( C1-C9 )		
High technical competence	.3367 (.47)	.0543 ( .28)
Consistent quality products	-.3587 (.51)	.1855 ( .57)
Detailed technical information	-.2245 (.61)	-.7927 ( .16)
New technical solutions	-.1684 (.36)	-.1677 (-.59)
Technical info'n ready	.6396 (.86)	.7308 (-.04)
Technical info'n inadequate*	.4583 (.80)	-.4083 (-.05)
Satisfactory product appearance	-.3990 ( - )	.5557 ( - )
Satisfactory product effect	.2669 ( - )	-.0409 ( - )
Price sensitivity	-.0555 ( - )	-.3688 ( - )
Adaptability ( C48-C54 )		
Del'vy based on buyers production	-.1509 (.65)	-.4103 ( .71)
Willing to adapt products	.5803 (.07)	.5849 (-.08)
Ready to change procedure	-.2631 (.26)	.1318 (-.29)
Accept reciprocal trading	-.4425 (.69)	.3665 (-.08)
Interested in Jt Product develop't	.5456 (.61)	-.1069 (-.27)
Coordinated production plans	.2734 (.68)	-.5082 (-.02)
Persuade to accept product*	.0555 (.71)	-.2611 (-.23)
Canonical R	.9222 ( .51)	.8210 (.31)
Chi square	77.84 (55.7)	44.58 (18.6)
Degrees of freedom	63 (12)	48 (10)
Probability	.0987 (.0000)	.6136 (.0471)

\* reversed scores

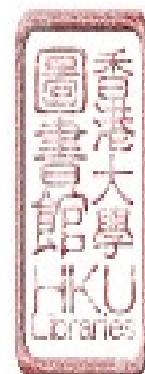


TABLE 5 Canonical analysis, technical skill-- conflict

Ford's buyers' figures in brackets

	canonical coefficients	
	1	2
Technical skill ( C1-C9 )		
High technical competence	-.2891 (-.50)	-.2426 ( .47)
Consistent quality products	-.2970 (-.72)	.1479 ( .31)
Detailed technical information	1.0700 (-.47)	.4075 (-.64)
New technical solutions	.0664 (-.37)	.6025 ( .16)
Technical info'n ready	-.2882 (-.84)	-.4114 (-.09)
Technical info'n inadequate*	-.6450 (-.76)	.0157 (-.31)
Satisfactory product appearance	-.3860 ( - )	-.1115 ( - )
Satisfactory product effect	.2304 ( - )	-.6249 ( - )
Price sensitivity	.0695 ( - )	.1758 ( - )
Conflict ( C55-C59 )		
Quick to handle complaints*	-.8253 (.21)	.1326 ( .62)
Use far-fetched excuses	.4124 (.33)	.6328 ( .58)
Impossible to cooperate with	.0442 (.79)	.1111 (-.08)
Problems in terms of payments	.0186 (.76)	.1714 (-.18)
Irritated by complaints	-.3829 (.59)	-.7350 ( .59)
Canonical R	.8504 (.68)	.7640 (.33)
Chi square	60.80 (116.8)	37.04 (21.2)
Degrees of freedom	45 (10)	32 (8)
Probability	.0580 (.0000)	.2477 (.0072)

\* reversed scores

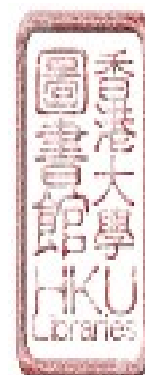


TABLE 6 Canonical analysis, Technical skill-- market factors

Ford's buyers' figures not available

	canonical coefficients	
	1	2
Technical skill ( C1-C9 )		
High technical competence	.4672 ( - )	-.8620 ( - )
Consistent quality products	-.1209 ( - )	.2282 ( - )
Detailed technical information	.0069 ( - )	.5038 ( - )
New technical solutions	-.4851 ( - )	.5969 ( - )
Technical information ready	-.1748 ( - )	-.2093 ( - )
Technical information inadequate*	-.7630 ( - )	-.4272 ( - )
Satisfactory product appearance	.6965 ( - )	.3338 ( - )
Satisfactory product effect	.1492 ( - )	-.3142 ( - )
Price sensitivity	.5724 ( - )	.0606 ( - )
Market factors ( C60-C66 )		
Labour disputes	-.0018 ( - )	-.6148 ( - )
Export restrictions	-.0903 ( - )	.4046 ( - )
Business fluctuations	-.1423 ( - )	.5444 ( - )
Government policies	-.7943 ( - )	.0006 ( - )
Wage difference	.2816 ( - )	-.3795 ( - )
Exchange rates	.4153 ( - )	.1205 ( - )
National technical standards	-.2983 ( - )	-.0580 ( - )
Canonical R	.9468 ( - )	.9016 ( - )
Chi square	102.14 ( - )	62.43 ( - )
Degrees of freedom	63 ( - )	48 ( - )
Probability	99.88 ( - )	92.12 ( - )

\* reversed scores

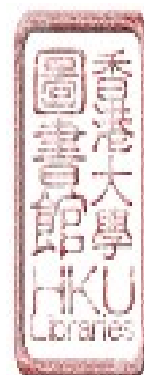


TABLE 7 Canonical analysis, Technical skill-- market activity

Ford's buyers' figures not available

	canonical coefficients	
	1	2
Technical skill ( C1-C9 )		
High technical competence	-.3515 ( - )	.2878 ( - )
Consistent quality products	.2600 ( - )	-.2933 ( - )
Detailed technical info'n	-.4066 ( - )	.4898 ( - )
New technical solutions	-.5464 ( - )	.0359 ( - )
Technical info'n ready	.8270 ( - )	1.0990 ( - )
Technical info'n inadequate*	-.6491 ( - )	-.5239 ( - )
Satisfactory product appearance	.9417 ( - )	-.6118 ( - )
Satisfactory product effect	-.1893 ( - )	.1034 ( - )
Price sensitivity	.0074 ( - )	-.3483 ( - )
Market activity ( C67-C75 )		
No. of people involved	.5071 ( - )	-.2478 ( - )
Influencers in purchases	.1053 ( - )	.1475 ( - )
Limited power of prodn engrs	-.0192 ( - )	.2893 ( - )
Strong power of design engrs	.0615 ( - )	-.6413 ( - )
Formalised decision making	-.0298 ( - )	-.3473 ( - )
Limited power of clerks	-.4163 ( - )	.0587 ( - )
Conflicts between departments	-.4065 ( - )	.2998 ( - )
High level decisions	-.1156 ( - )	.0784 ( - )
Importance of good price	.6122 ( - )	.4492 ( - )
Canonical R	.8884 ( - )	.8565 ( - )
Chi square	85.00 ( - )	59.30 ( - )
Degrees of freedom	81 ( - )	64 ( - )
Probability	.3590 ( - )	.6431 ( - )

\* reversed scores

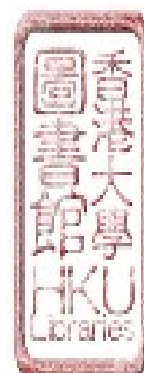


TABLE 8 Canonical analysis, commercial skill-- market commitment

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Ford's buyers' figures in brackets

	canonical coefficients	
	1	2
Commercial skill ( C10-C18 )		
Punctual deliveries	.4579 (.11)	-.2276 ( .83)
Commercial competence	-.1878 (.18)	.4386 (-.16)
Quick deliveries	.3145 (.71)	-.4506 ( .08)
Commercial information ready	.5430 (.74)	-.2326 ( .12)
Salesmen's authority unclear*	.1868 (.69)	-.3691 ( .20)
Commercial information adequate*	-.3858 (.39)	.3711 ( .14)
Difficult to get delvy info'n*	-.1545 (.66)	.3553 ( .36)
Handle rush order	.3238 ( - )	.4183 ( - )
Price as excuse	.3656 ( - )	-.4527 ( - )
Market commitment ( C19-C24 )		
Willing to establish local stocks	-.0214 (.22)	.2260 (-.23)
Instructions in own language	.4369 (.77)	.5214 ( .02)
Documentations in own language	.5323 (.63)	-.7047 ( .23)
Service organization in country	.3604 (.73)	.2928 ( .48)
Salesmen nationals of suppliers country*	-.4993 (.44)	-.0386 (-.40)
Allowance for price bargaining	.3823 ( - )	-.3054 ( - )
Canonical R	.9146 (.41)	.8742 (.31)
Chi square	75.17 (35.0)	42.56 (19.0)
Degrees of freedom	54 (11 )	40 ( 9 )
Probability	.0300 (.0005)	.3613 (.0255)

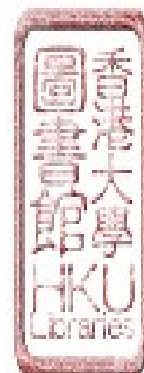
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\* reversed scores



TABLE 9 Canonical analysis, commercial skill-- company commitment

Ford's buyers' figures in brackets

	canonical coefficients	
	1	2
Commercial skill ( C10-C18 )		
Punctual deliveries	-.0802 (.44)	-.1855 (-.31)
Commercial competence	.4819 (.21)	.2910 (-.20)
Quick deliveries	-.5386 (.55)	.5429 (-.48)
Commercial info'n ready	.5783 (.61)	-.5330 (-.05)
Salesmen's authority unclear*	-.3500 (.81)	.0021 (-.09)
Commerc'l info'n inadequate*	.2299 (.66)	-.4466 (-.14)
Difficult to get delvy info'n*	.3265 (.70)	.6465 ( .52)
Handle rush order	.5942 ( - )	-.3122 ( - )
Price as excuse	-.4401 ( - )	.3058 ( - )
Company commitment ( C25-C29 )		
Follow up use of products	.1196 (.19)	-.6601 ( .68)
Favour existing customers	.3972 (.53)	.2863 (-.41)
Marketing to new customers*	.2105 (.82)	.6759 (-.14)
Salesmen quick to respond	.8852 (.72)	-.0184 ( .33)
Quotations take a long time*	-.0082 (.11)	-.1586 ( .04)
Canonical R	.8873 (.59)	.6046 (.30)
Chi square	44.45 (79.6)	15.82 (17.6)
Degrees of freedom	45 (11)	32 (9)
Probability	.4952 (.0000)	.2500 (.0414)

\* reversed scores

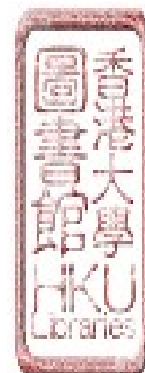


TABLE 10 Canonical analysis, commercial skill-- distance

EIGENVALUES NOT IN RANGE ZERO TO ONE

Ford's buyers' figures in brackets

	canonical coefficients	
	1	2
Commercial skill ( C10-C18 )		
Punctual deliveries	(.49)	( .22)
Commercial competence	(.30)	( .30)
Quick deliveries	(.71)	( .19)
Commercial information ready	(.79)	(-.45)
Salesmen's authority unclear*	(.62)	( .38)
Commercial info'n inadequate*	(.61)	( .15)
Difficult to get delvy info'n*	(.69)	(-.28)
Rush order	( - )	( - )
Price as excuse	( - )	( - )
Distance ( C30-C47 )		
Communication in writing	(-.14)	(-.07)
Close personal contacts*	(-.12)	( .19)
Culture poses difficulty	(-.52)	(-.28)
Trust suppliers to keep informed*	(-.30)	(-.53)
Difficult to make personal friends	(-.15)	(-.48)
We like dealing with suppliers*	(-.15)	(-.06)
Suppliers confidence in our info.*	(-.72)	(-.27)
Suppliers understand our problems*	(-.00)	(-.31)
Marketing by personal contacts*	(-.60)	(-.22)
Suppliers not understand operations	(-.76)	(-.22)
Language differences make difficult	(-.34)	(-.06)
Business based on mutual trust*	(-.17)	(-.03)
Official festival gifts	( - )	( - )
Unofficial personal gifts	( - )	( - )
Very good reputation	( - )	( - )
Foreign firms better reputation	( - )	( - )
Face-to-face to reach agreement	( - )	( - )
Prefer face-to-face meeting	( - )	( - )
Canonical R	(.66)	(.37)
Chi square	(104.5)	(26.9)
Degrees of freedom	(18)	(16)
Probability	(.0000)	(.0446)

\* reversed scores

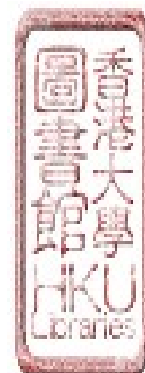


TABLE 11 Canonical analysis, commercial skill-- adaptability

Ford's buyers' figures in brackets

Commercial skill ( C10-C18 )	canonical coefficients	
	1	2
Punctual deliveries	.5246 (.56)	.2000 (-.38)
Commercial competence	.4451 (.64)	.2066 ( .07)
Quick deliveries	-.4269 (.42)	-.7989 ( .40)
Commercial information ready	-.0791 (.46)	-.1054 ( .75)
Salesmen's authority unclear*	.0161 (.72)	-.3041 (-.02)
Commercial info'n inadequate*	.2098 (.72)	.0274 (-.28)
Difficult to get delvy info'n *	.5676 (.43)	.0718 ( .35)
Rush order	.0253 ( - )	.1105 ( - )
Price as excuse	.3309 ( - )	.1403 ( - )
Adaptability ( C48-C54 )		
Del'vy based on buyers production	.4367 ( .68)	.2893 ( .30)
Willing to adapt products	-.0972 (-.09)	-.3901 ( .63)
Ready to change procedure	.3856 ( .20)	-.2874 ( .18)
Accept reciprocal trading	-.1053 ( .66)	.7057 ( .08)
Interested in Jt Product develop't	.7564 ( .60)	-.0347 (-.12)
Coordinated production plans	.0842 ( .58)	-.4260 (-.16)
Persuade to accept product*	.2468 ( .70)	.0233 (-.12)
Canonical R	.9622 (.58)	.8725 (.42)
Chi square	93.84(76.6)	48.34(35.7)
Degrees of freedom	63 (13)	48 (11)
Probability	.0071 (.0000)	.4593 (.0004)

\* reversed scores

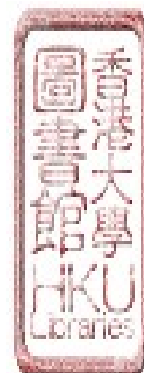


TABLE 12 Canonical analysis, commercial skill-- conflict

Ford's buyers' figures in brackets

	canonical coefficients	
	1	2
Commercial skill ( C10-C18 )		
Punctual deliveries	-.4236 (-.43)	.2984 (-.01)
Commercial competence	.6644 (-.28)	.2371 (-.35)
Quick deliveries	.3498 (-.62)	-.5048 (-.07)
Commercial information ready	.1016 (-.76)	-.1492 (-.57)
Salesmen's authority unclear*	.4266 (-.64)	-.3013 (-.41)
Commercial info' inadequate*	-.1967 (-.60)	-.3762 (-.38)
Difficult to get del'vy info'n*	.7297 (-.78)	.6492 (-.11)
Rush order	-.3596 ( - )	-.1662 ( - )
Price as excuse	-.1290 ( - )	.1259 ( - )
Conflict ( C55-C59 )		
Quick to handle complaints*	.7685 (.30)	.0852 ( .31)
Use far-fetched excuses	-.4333 (.28)	.7611 ( .56)
Impossible to cooperate with	-.3181 (.80)	-.2040 ( .33)
Problems in terms of payments	.3111 (.81)	.4616 (-.39)
Irritated by complaints	.1538 (.48)	-.3986 ( .38)
Canonical R	.8521 (.73)	.6927 (.35)
Chi square	55.73 (141.8)	31.77 (24.8)
Degrees of freedom	45 (11)	32 (9)
Probability	.1311 (.0000)	.4780 (.0038)

\* reversed scores

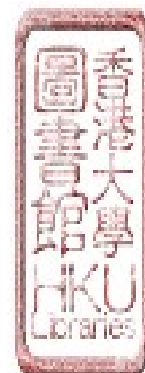


TABLE 13 Canonical analysis, commercial skill-- market factor

Ford's buyers' figures in brackets

	canonical coefficients	
	1	2
Commercial skill ( C10-C18 )		
Punctual deliveries	-.0945 ( - )	-.4740 ( - )
Commercial competence	-.3370 ( - )	-.5380 ( - )
Quick deliveries	.6546 ( - )	.5452 ( - )
Commercial information ready	-.1193 ( - )	.5802 ( - )
Salesmen's authority unclear*	.0174 ( - )	.5241 ( - )
Commercial info'n inadequate*	-.0778 ( - )	-.6108 ( - )
Difficult to get delvy info'n*	.4028 ( - )	-.1010 ( - )
Handle rush order	-.3369 ( - )	.1309 ( - )
Price as excuse	.0801 ( - )	.6848 ( - )
Market factors ( C60-C66 )		
Labour disputes	.3133 ( - )	-.0580 ( - )
Export restrictions	-.0342 ( - )	-.2803 ( - )
Business fluctuations	-.3227 ( - )	-.8550 ( - )
Government policies	.1426 ( - )	.0952 ( - )
Wage difference	.0060 ( - )	.0634 ( - )
Exchange rates	-.7953 ( - )	.3538 ( - )
National technical standards	.3790 ( - )	-.2209 ( - )
Canonical R	.8983 ( - )	.8641 ( - )
Chi square	78.22 ( - )	49.43 ( - )
Degrees of freedom	63 ( - )	48 ( - )
Probability	.0938 ( - )	.4158 ( - )

\* reversed scores

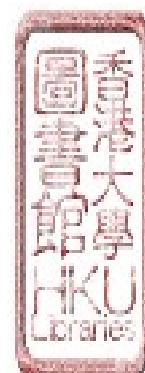
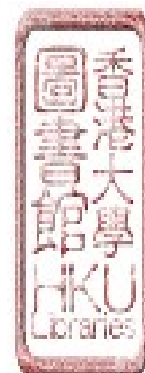


TABLE 14 Canonical analysis, commercial skill-- market activity

Ford's buyers' figures in brackets

	canonical coefficients	
	1	2
Commercial skill ( C10-C18 )		
Punctual deliveries	-.1510 ( - )	-.1384 ( - )
Commercial competence	-.1450 ( - )	-.2796 ( - )
Quick deliveries	.0991 ( - )	.2219 ( - )
Commercial info'n ready	.2416 ( - )	.0893 ( - )
Salesmen's authority unclear*	.7802 ( - )	.1896 ( - )
Commercial info'n adequate*	-.1724 ( - )	-.6328 ( - )
Difficult to get delvy info'n*	-.3987 ( - )	.6914 ( - )
Handle rush order	-.0637 ( - )	-.0625 ( - )
Price as excuse	-.4445 ( - )	.0329 ( - )
Market activity ( C67-C75 )		
No of people involved	-.1600 ( - )	.2224 ( - )
Influencers in purchases	.0322 ( - )	-.3447 ( - )
Limited power of prodn engrs	.2003 ( - )	.2862 ( - )
Strong power of design engrs	-.3714 ( - )	.3292 ( - )
Formalised decision making	-.1110 ( - )	-.4935 ( - )
Limited power of clerks	-.6335 ( - )	.1954 ( - )
Conflicts between departments	-.5867 ( - )	-.1996 ( - )
High level decisions	.0466 ( - )	-.4209 ( - )
Importance of good price	.1877 ( - )	.3778 ( - )
Canonical R	.9502 ( - )	.8750 ( - )
Chi square	99.02 ( - )	60.60 ( - )
Degrees of freedom	81 ( - )	64 ( - )
Probability	.0947 ( - )	.5974 ( - )

\* reversed scores



NOTE : TABLES 15 TO 20 ARE DELIBERATELY LEFT BLANK  
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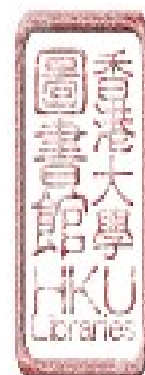


EXHIBIT XIII. COMPARISON BETWEEN HK BUYER/SELLER RESULTS

TABLE 21 Canonical analysis, technical skill-- market commitment

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Buyers' (Seller's) results

	canonical coefficients	
	1	2
Technical skill ( C1-C9 )		
High technical competence	-.272 ( .485)	-.438 (-.263)
Consistent quality products	.667 ( .114)	.593 (1.230)
Detailed technical information	.006 (-.407)	.192 (-.057)
New technical solutions	-.327 (-.142)	.002 (-.933)
Technical info'n ready	-.420 ( .152)	.165 ( .139)
Technical info'n inadequate*	.580 ( .022)	-.081 (-.300)
Satisfactory product appearance	-.319 ( .012)	.164 ( .237)
Satisfactory product effect	-.547 ( .140)	-.019 (-.077)
Price sensitivity	.269 (-.039)	-.201 (-.251)
Market commitment ( C19-C24 )		
Willing to establish local stock	-.170 (-.026)	.123 (-.231)
Instructions in own language	.843 (-.580)	-.208 ( .640)
Documentations in own language	.284 ( .523)	-.358 ( .360)
Service organization in country	.160 (-.326)	.833 (-.104)
Salesmen nationals of suppliers country*	.076 ( .511)	-.329 ( .391)
Allowance for price bargaining	.384 (-.149 )	.097 ( .493)
Canonical R	.893 (.792)	.859 (.606)
Chi square	82.02 (53.1)	53.33 (30.4)
Degrees of freedom	54 (54)	40 (40 )
Probability	.0083 (.5085)	.0772 (.8638)

-----  
\* reversed scores

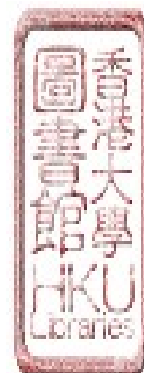




TABLE 22 Canonical analysis, technical skill--company commitment

Buyers' (Seller's) results

	canonical coefficients	
	1	2
Technical skill ( C1-C9 )		
High technical competence	.545 (-.395)	-.358 (-.629)
Consistent quality products	-.432 (-.114)	.064 (-.341)
Detailed technical information	-.041 ( .295)	-.389 ( .496)
New technical solutions	-.299 ( .419)	.363 ( .678)
Technical info'n ready	1.186 (-.187)	.753 ( .415)
Technical info'n inadequate*	-1.181 (-.043)	-.088 ( .037)
Satisfactory product appearance	1.039 (-.230)	.270 ( .956)
Satisfactory product effect	.776 ( .530)	-.264 ( .398)
Price sensitivity	-.285 (-.046)	-.930 ( .377)
Company commitment ( C25-C29 )		
Follow up use of products	.464 ( .620)	-.788 ( .456)
Favour existing customers	.753 (-.217)	.447 ( .700)
Marketing to new customers*	.193 ( .254)	.259 ( .106)
Salesmen quick to respond	.380 ( .091)	.040 ( .478)
Quotations take a long time*	.185 ( .704)	.331 (-.251)
Canonical R	.905 (.797)	.793 (.725)
Chi square	64.85 (65.1)	33.29 (41.4)
Degrees of freedom	45 (45)	32 (32)
Probability	.0274 (.0264)	.4043 (.1230)

\* reversed scores

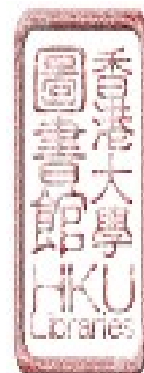


TABLE 23 Canonical analysis, technical skill-- distance

FOR PURCHASERS, EIGENVALUES NOT IN RANGE ZERO TO ONE

Seller's results in brackets

	canonical coefficients	
	1	2
Technical skill ( C1-C9 )		
High technical competence	( .292)	( .045)
Consistent quality products	( .653)	( -.014)
Detailed technical info'n	( -.046)	( .083)
New technical solutions	( -.464)	( .153)
Technical info'n ready	( -.351)	( .202)
Technical info'n inadequate*	( .149)	( -.770)
Satisfactory product appearance	( .156)	( -.019)
Satisfactory product effect	( .147)	( -.261)
Price sensitivity	( -.281)	( -.515)
Distance ( C30-C47 )		
Communication in writing	( -.047)	( .075)
Close personal contacts	( .020)	( -.727)
Culture poses difficulty	( .246)	( .584)
Trust suppliers to keep informed*	( .042)	( -.241)
Difficult to make personal friends	( .146)	( .563)
We like dealing with*	( -.285)	( .421)
Suppliers confidence in our info'n*	( -.226)	( -.620)
Suppliers understand our problem*	( .434)	( -.186)
Marketing by personal contact*	( -.566)	( .144)
Suppliers not understand operation	( .212)	( -.718)
Language differences make difficult	( -.252)	( -.161)
Business based on mutual trust*	( .344)	( .098)
Official festival gifts	( .059)	( .301)
Unofficial personal gifts	( .099)	( .562)
Very good reputation	( .293)	( .052)
Foreign firms better reputation	( -.411)	( .772)
Face-to-face to reach agreement	( .556)	( .952)
Prefer face-to-face meeting	( -.067)	( -.621)
Canonical R	(.9912)	(.9757)
Chi square	(256.12)	(187.34)
Degrees of freedom	(162)	(136)
Probability	(.0000)	(.0023)

\* reversed scores

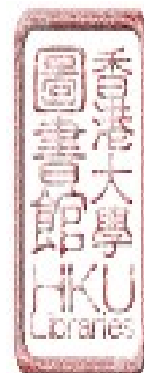


TABLE 24 Canonical analysis, technical skill-- adaptability

Buyers' (Seller's) results

	canonical coefficients	
	1	2
Technical skill ( C1-C9 )		
High technical competence	.337 ( .326)	.054 (-.058)
Consistent quality products	-.359 ( .220)	.186 (-.256)
Detailed technical information	-.225 ( .183)	-.793 (-.095)
New technical solutions	-.168 (-.772)	-.168 ( .201)
Technical information ready	.640 ( .099)	.731 ( .252)
Technical information adequate*	.458 (-.240)	-.408 (-.311)
Satisfactory product appearance	-.399 ( .763)	.556 (-.268)
Satisfactory product effect	.267 ( .201)	-.041 ( .077)
Price sensitivity	-.056 ( .007)	-.369 ( .140)
Adaptability ( C48-C54 )		
Del'vy based on buyers production	-.151 (-.320)	-.410 ( .083)
Willing to adapt products	.580 ( .261)	.585 ( .180)
Ready to change procedure	-.263 ( .551)	.132 ( .173)
Accept reciprocal trading	-.443 (-.405)	.367 ( .588)
Interested in Jt Product develop't	.546 ( .049)	-.107 (-.738)
Coordinated production plans	.273 ( .567)	-.508 (-.008)
Persuade to accept product*	.056 (-.194)	-.261 (-.202)
Canonical R	.9222 (.894)	.8210 (.747)
Chi square	77.84 (72.56)	44.58 (36.41)
Degrees of freedom	63 (63)	48 (48)
Probability	.0987(.1918)	.6134 (.8897)

\* reversed scores

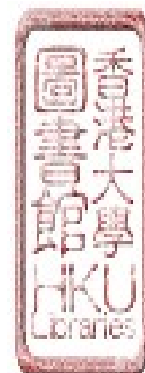


TABLE 25 Canonical analysis, technical skill-- conflict

Buyers' (Seller's) results

	canonical coefficients	
	1	2
Technical skill ( C1-C9 )		
High technical competence	-.289 (-.045)	-.243 (-.112)
Consistent quality products	-.297 ( .368)	.148 (-.687)
Detailed technical information	1.070 ( .485)	.408 ( .242)
New technical solutions	.066 (-.435)	.603 (-.538)
Technical info'n ready	-.288 (-.138)	-.411 ( .163)
Technical info'n in adequate*	-.645 ( .396)	.016 (-.235)
Satisfactory product appearance	-.386 ( .621)	-.112 (-.171)
Satisfactory product effect	.230 ( .376)	-.625 (-.139)
Price sensitivity	.070 ( .608)	.176 (-.149)
Conflict ( C55-C59 )		
Quick to handle complaints*	-.825 ( .723)	.133 (-.275)
Use far-fetched excuses	.412 (-.234)	.633 ( .798)
Impossible to cooperate with	.044 ( .283)	.111 ( .535)
Problems in terms of payments	.019 ( .439)	.171 ( .022)
Irritated by complaints	-.383 (-.387)	-.735 ( .008)
Canonical R	.8504 (.7304)	.7640 (.6258)
Chi square	60.80 (44.12)	37.04 (26.20)
Degrees of freedom	45 (45)	32 (32)
Probability	.0580 (.5091)	.2477 (.7545)

\* reversed scores

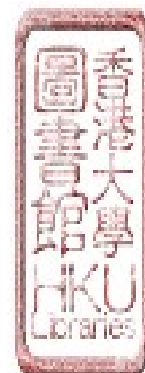


TABLE 26 Canonical analysis, Technical skill-- market factors

Buyers' (Seller's) results

	canonical coefficients	
	1	2
Technical skill ( C1-C9 )		
High technical competence	.467 ( .377)	-.862 ( -.127)
Consistent quality products	-.121 ( .319)	.228 ( .049)
Detailed technical information	.007 ( -.182)	.504 ( .479)
New technical solutions	-.485 ( -.182)	.597 ( .304)
Technical info'n ready	-.175 ( .158)	-.209 ( -.589)
Technical info'n inadequate*	-.763 ( -.063)	-.427 ( -.396)
Satisfactory product appearance	.697 ( -.527)	.334 ( -.080)
Satisfactory product effect	.149 ( .051)	-.314 ( .297)
Price sensitivity	.572 ( -.322)	.061 ( .124)
Market factors ( C60-C66 )		
Labour disputes	-.002 ( -.502)	-.615 ( .007)
Export restrictions	-.090 ( .085)	.405 ( -.405)
Business fluctuations	-.142 ( -.109)	.544 ( .433)
Government policies	-.794 ( .473)	.001 ( -.247)
Wage difference	.282 ( -.317)	-.380 ( -.298)
Exchange rates	.415 ( -.445)	.121 ( .689)
National technical standards	-.298 ( .455)	-.058 ( .154)
Canonical R	.9468 (.8398)	.8128 (.7597)
Chi square	102.14 (87.33)	62.43 (59.85)
Degrees of freedom	63 (63)	48 (48)
Probability	.0012 (.0229)	.0788 (.1172)

\* reversed scores

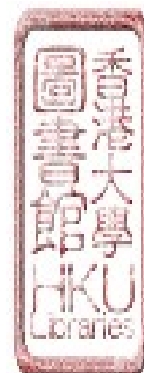


TABLE 27 Canonical analysis, Technical skill-- market activity

Buyers' (Seller's) results

	canonical coefficients	
	1	2
Technical skill ( C1-C9 )		
High technical competence	-.352 ( .343)	.288 (-.576)
Consistent quality products	.260 (-.334)	-.293 (-.050)
Detailed technical info'n	-.407 (-.588)	.490 (-.129)
New technical solutions	-.546 (-.018)	.036 ( .607)
Technical info'n ready	.827 ( .148)	1.099 (-.151)
Technical info'n inadequate*	-.649 ( .270)	-.524 (-.014)
Satisfactory product appearance	.942 (-.106)	-.612 (-.222)
Satisfactory product effect	-.189 (-.481)	.103 ( .196)
Price sensitivity	.007 (-.874)	-.348 ( .236)
Market activity ( C67-C75 )		
No. of people involved	.507 (-.438)	-.248 ( .249)
Influencers in purchases	.105 ( .209)	.148 (-.726)
Limited power of prodn engrs	-.019 (-.345)	.289 ( .365)
Strong power of design engrs	.062 (-.363)	-.641 ( .233)
Formalised decision making	-.030 (-.288)	-.347 (-.183)
Limited power of clerks	-.416 ( .031)	.059 ( .197)
Conflicts between departments	-.407 (-.613)	.300 (-.174)
High level decisions	-.116 ( .111)	.078 (-.304)
Importance of good price	.612 ( .205)	.449 ( .166)
Canonical R	.8884 (.9269)	.8565 (.8962)
Chi square	85.00 (140.46)	59.30 (98.32)
Degrees of freedom	81 (81)	64 (64)
Probability	.3590 (.0000)	.6431 (.0037)

\* reversed scores

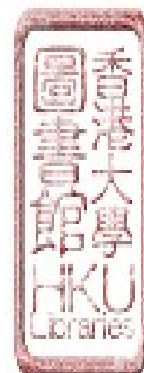


TABLE 28 Canonical analysis, commercial skill-- market commitment

## Buyers' (Seller's) results

	canonical coefficients	
	1	2
Commercial skill ( C10-C18 )		
Punctual deliveries	.458 ( .325)	-.228 (-.322)
Commercial competence	-.188 ( .318)	.439 (1.129)
Quick deliveries	.315 ( .258)	-.451 (-.075)
Commercial info'n ready	.543 ( .328)	-.233 ( .327)
Salesmen's authority unclear*	.187 (-.434)	-.369 (-.155)
Commercial information adequate*	-.386 (-.058)	.371 ( .358)
Difficult to get delvy info'n*	-.155 ( .461)	.355 ( .042)
Handle rush order	.324 ( .145)	.418 (-.429)
Price as excuse	.366 ( .068)	-.453 (-.543)
Market commitment ( C19-C24 )		
Willing to establish local stocks	-.021 ( .458)	.226 (-.496)
Instructions in own language	.437 ( .011)	.521 (-.357)
Documentations in own language	.532 (-.170)	-.705 ( .210)
Service organization in country	.360 ( .662)	.293 ( .678)
Salesmen nationals of suppliers country*	-.499 ( .047)	-.039 (-.294)
Allowance for price bargaining	.382 ( .567)	-.305 (-.190)
Canonical R	.9146 (.8995)	.8742 (.7665)
Chi square	75.17 (89.46)	42.56 (51.37)
Degrees of freedom	54 (54 )	40 ( 40)
Probability	.0100 (.0017)	.3613 (.1074)

\* reversed scores



TABLE 29 Canonical analysis, commercial skill-- company commitment

## Buyers' (Seller's) results

	canonical coefficients	
	1	2
Commercial skill ( C10-C18 )		
Punctual deliveries	-.080 ( .589)	-.186 (-.231)
Commercial competence	.481 ( .151)	.291 ( .329)
Quick deliveries	-.538 (-.174)	.543 (-.160)
Commercial info'n ready	.578 ( .226)	-.533 ( .082)
Salesmen's authority unclear*	-.350 (-.197)	.002 (-.351)
Commerc'l info'n inadequate*	.230 (-.091)	-.447 ( .367)
Difficult to get delvy info'n*	.327 (-.188)	.647 (-.176)
Handle rush order	.594 ( .303)	-.312 (-.571)
Price as excuse	-.440 (-.307)	.306 ( .423)
Company commitment ( C25-C29 )		
Follow up use of products	.120 (-.274)	-.660 ( .835)
Favour existing customers	.397 ( .708)	.286 (-.530)
Marketing to new customers*	.211 (-.315)	.676 ( .019)
Salesmen quick to respond	.885 ( .569)	-.018 ( .140)
Quotations take a long time*	-.008 ( .028)	-.159 ( .042)
Canonical R	.887 ( .8522)	.6046 ( .7281)
Chi square	44.45 (79.2)	15.82 (48.79)
Degrees of freedom	45 (45)	32 (32)
Probability	.4952 (.0012)	.25 (.0291)

\* reversed scores

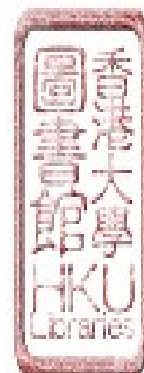




TABLE 30 Canonical analysis, commercial skill-- distance

FOR PURCHASERS, EIGENVALUES NOT IN RANGE ZERO TO ONE

Seller's results in brackets

	canonical coefficients	
	1	2
Commercial skill ( C10-C18 )		
Punctual deliveries	( .497 )	( .367 )
Commercial competence	( -.140 )	( -.633 )
Quick deliveries	( .193 )	( -.063 )
Commercial information ready	( -.015 )	( -.462 )
Salesmen's authority unclear	( .232 )	( -.153 )
Commercial info'n inadequate*	( .770 )	( .220 )
Difficult to get delvy info'n*	( -.018 )	( -.193 )
Rush order	( .221 )	( -.358 )
Price as excuse	( -.007 )	( .100 )
Distance ( C30-C47 )		
Communication in writing	( -.093 )	( .277 )
Close personal contacts*	( .001 )	( -.557 )
Culture poses difficulty	( .127 )	( .370 )
Trust suppliers to keep informed*	( .095 )	( -.119 )
Difficult to make personal friends	( .189 )	( .554 )
We like dealing with suppliers*	( .367 )	( -.191 )
Suppliers confidence in our info'n*	( -1.200 )	( -.079 )
Suppliers understand our problems	( -.068 )	( -.114 )
Marketing by personal contacts*	( -.293 )	( -.091 )
Suppliers not understand operations	( -.121 )	( -.456 )
Language differences make difficult	( -.336 )	( -.027 )
Business based on mutual trust*	( -.349 )	( .288 )
Official festival gifts	( .227 )	( .145 )
Unofficial personal gifts	( .480 )	( .265 )
Very good reputation	( -.641 )	( -.322 )
Foreign firms better reputation	( .837 )	( .331 )
Face-to-face to reach agreement	( .779 )	( 1.063 )
Prefer face-to-face meeting	( -.416 )	( -.618 )
Canonical R	( .9887 )	( .9783 )
Chi square	( 244.09 )	( 179.52 )
Degrees of freedom	( 162 )	( 136 )
Probability	( .0000 )	( .0074 )

\* reversed scores

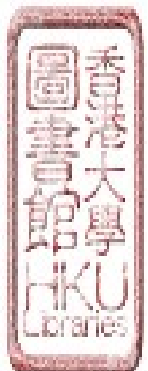


TABLE 31 Canonical analysis, commercial skill-- adaptability

Buyers' (Seller's) results

Commercial skill ( C10-C18 )	canonical coefficients	
	1	2
Punctual deliveries	.5246 (-.426)	.2000 ( .373)
Commercial competence	.4451 (-.356)	.2066 ( .218)
Quick deliveries	-.4269 ( .171)	-.7989 ( .172)
Commercial information ready	-.0791 ( .633)	-.1054 ( .036)
Salesmen's authority unclear*	.0161 (-.117)	-.3041 (-.451)
Commercial info'n inadequate*	.2098 (-1.08)	.0274 (-.027)
Difficult to get delvy info'n *	.5676 ( .432)	.0718 (-.180)
Rush order	.0253 ( .280)	.1105 ( .087)
Price as excuse	.3309 (-.387)	.1403 ( .014)
Adaptability ( C48-C54 )		
Del'vy based on buyers production	.4367 ( .036)	.2893 ( .137)
Willing to adapt products	-.0972 ( .221)	-.3901 ( .386)
Ready to change procedure	.3856 (-.520)	-.2874 ( .232)
Accept reciprocal trading	-.1053 ( .477)	.7057 ( .424)
Interested in Jt Product develop't	.7564 (-.322)	-.0347 (-.500)
Coordinated production plans	.0842 (-.151)	-.4260 ( .589)
Persuade to accept product*	.2468 ( .570)	.0233 ( .048)
Canonical R	.9257 (.8413)	.8725 (.7625)
Chi square	93.84(69.76)	48.34(42.09)
Degrees of freedom	63 (63)	48 (48)
Probability	.0071 (.2608)	.4593 (.7128)

\* reversed scores

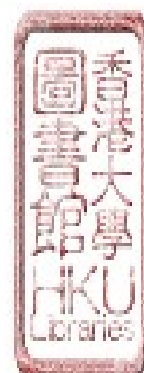


TABLE 32 Canonical analysis, commercial skill-- conflict

Buyers' (Seller's) results

	canonical coefficients	
	1	2
Commercial skill ( C10-C18 )		
Punctual deliveries	-.424 ( -.104)	.298 ( .412)
Commercial competence	.664 ( .261)	.237 ( .560)
Quick deliveries	.350 ( -.128)	-.505 ( .221)
Commercial information ready	.102 ( .606)	-.149 ( -.055)
Salesmen's authority unclear*	.427 ( -.494)	-.301 ( .180)
Commercial info' inadequate*	-.197 ( .059)	-.376 ( -.299)
Difficult to get del'vy info'n*	.731 ( .561)	.649 ( -.102)
Rush order	-.360 ( .695)	-.166 ( -.172)
Price as excuse	-.129 ( .140)	.126 ( -.491)
Conflict ( C55-C59 )		
Quick to handle complaints*	.769 ( .415)	.085 ( .758)
Use far-fetched excuses	-.433 ( .635)	.761 ( -.452)
Impossible to cooperate with	-.318 ( -.298)	-.204 ( .043)
Problems in terms of payments	.311 ( -.341)	.462 ( .354)
Irritated by complaints	.154 ( .469)	-.399 ( -.306)
Canonical R	.8521 ( .7926)	.6927 ( .6676)
Chi square	55.73 (49.01)	31.77 (25.75)
Degrees of freedom	45 (45)	32 (32)
Probability	.1311 ( .3154)	.4780 ( .7744)

\* reversed scores

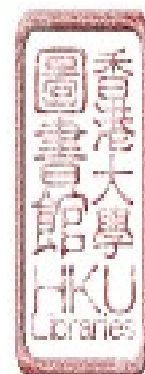


TABLE 33 Canonical analysis, commercial skill-- market factor

Buyers' (Seller's) results

	canonical coefficients	
	1	2
Commercial skill ( C10-C18 )		
Punctual deliveries	-.095 (-.746)	-.474 ( .063)
Commercial competence	-.337 (-.324)	-.538 ( .114)
Quick deliveries	.655 ( .357)	.545 ( .405)
Commercial info'n ready	-.119 ( .315)	.580 (-.381)
Salesmen's authority unclear*	.017 ( .127)	.524 (-.353)
Commercial info'n inadequate*	-.078 (-.538)	-.611 ( .604)
Difficult to get delvy inform*	.403 ( .324)	-.101 ( .024)
Handle rush order	-.337 ( .174)	.131 (-.703)
Price as excuse	.080 ( .036)	.685 (-.096)
Market factors ( C60-C66 )		
Labour disputes	.313 (-.322)	-.058 (-.067)
Export restrictions	-.034 ( .038)	-.280 (-.325)
Business fluctuations	-.323 ( .306)	-.855 ( .600)
Government policies	.143 ( .364)	.095 (-.390)
Wage difference	.006 (-.597)	.063 (-.343)
Exchange rates	-.795 ( .149)	.354 ( .510)
National technical standards	.379 (-.539)	-.221 (-.025)
Canonical R	.8983 (.8439)	.8641 (.7094)
Chi square	78.22 (63.98)	49.43 (35.96)
Degrees of freedom	63 (63)	48 (48)
Probability	.0938 (.4417)	.4158 (.8966)

\* reversed scores

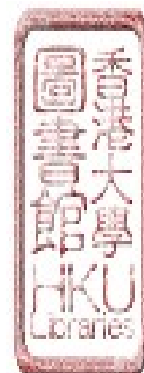
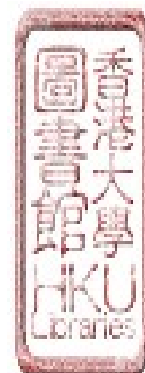


TABLE 34 Canonical analysis, commercial skill-- market activity

Buyers' (Seller's) results

	canonical coefficients	
	1	2
Commercial skill ( C10-C18 )		
Punctual deliveries	-.151 ( .361)	-.138 ( .946)
Commercial competence	-.145 (-.396)	-.280 (-.380)
Quick deliveries	.099 ( .238)	.222 (-.150)
Commercial info'n ready	.242 (-.344)	.089 (-.552)
Salesmen's authority unclear	.780 (-.329)	.190 (-.175)
Commercial info'n inadequate	-.172 ( .149)	-.633 (-.159)
Difficult to get delvy info'n	-.399 ( .013)	.691 (-.659)
Handle rush order	-.064 (-.653)	-.063 (-.255)
Price as excuse	-.445 (-.186)	.033 ( .452)
Market activity ( C67-C75 )		
No. of people involved	-.160 (-.343)	.222 ( .335)
Influencers in purchases	.032 ( .180)	-.345 ( .178)
Limited power of prodn engrs	.200 ( .287)	.286 (-.474)
Strong power of design engrs	-.371 ( .269)	.329 ( .138)
Formalised decision making	-.111 (-.064)	-.494 ( .227)
Limited power of clerks	-.634 (-.566)	.195 (-.182)
Conflicts between departments	-.587 (-.488)	-.200 (-.135)
High level decisions	.047 ( .310)	-.421 ( .588)
Importance of good price	.188 ( .191)	.378 ( .405)
Canonical R	.9502 (.8478)	.8750 (.7905)
Chi square	99.02 (84.87)	60.60 (57.59)
Degrees of freedom	81 (81)	64 (64)
Probability	.0847 (.3626)	.5974 (.7009)

\* reversed scores



## EXHIBIT XIII. STEPS IN USING IBM COMPUTER SOFTWARE

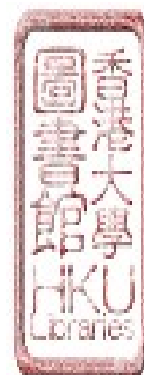
### I. Importing file to IBM AS programme

1. type : network                      < Enter >
2. type : password                      < Enter >
3. HKU menu  
communication  
HKUMDC
4. to UserID                      type your user ID < Enter >  
to password                      type your password < Enter >
5. type : drive a:                      < Enter >
6. type : ldir
7. type : filename ( a:dsel.dat )      (dsel.dat = sellers' data)
8. type : filename ( a:dbuy.dat )      (dbuy.dat = buyers' data)

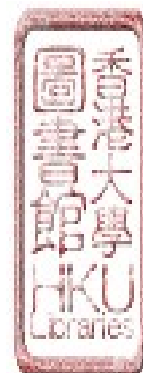
The files have now been imported to IBM AS programme.

### II. Application System (AS ) on the IBM 9375

1. Switch ON the terminal
2. Logon the IBM computer:  
type : your user ID                      < Enter >  
type : your password                      < Enter >
3. wait until the message " ready " appears
4. to view data files  
type: filel                                  < Enter >
5. to convert 'file.dat' into usable file 'file.listing'  
type: rename file.dat a file.listing a                      < Enter >  
type: xedit (file)                      < Enter >
6. Type : VMAS                      < Enter >
7. wait for the AS code selection screen



8. Type :     PRM       < Enter >
9. Wait for the AS menu to come up. To clear menu press < F6 >
10. To create a data table for 75 variables
- type :   create mask #1: #75       < Enter >
11. to fill table with data from file created
- type :   in mask = file (record(varying))       < Enter >
- type :   view       < Enter >
- type :   out new file       < Enter >
- type :   copy   < Enter >
- type :   in new file   < Enter >
- type :   view   < Enter >
12. Select " Statistics " from menu
- Select " Multivariate Analysis " from menu
- Select " Canonical Analysis " from menu
- or type a command on the command line to read
- " STATISTICS VARIABLE(#1,#9:#19,#24),CANONICAL(9) ".
- where        VARIABLE = data in a column. otherwise use ROW
- (#1:#9,#19:#24)= names of the variables in the left-
- hand and right-hand groups (i.e. C1-
- C9, C19-C24 for table I). The comma
- separates the individual columns,
- and two colons separate the first
- and last items in the range.
13. For data, select "in table new file" .



14. To the question of "How many first variables? ", give the number of variables for the first set, in this case "9" for C1-C9. The computer can then determine the number of variables in the second set itself.
15. Press < PF11 > and < PF8 > to input first and second sets of variables when asked by the computer
16. Run the computer programme
17. Repeat the process for all other sets of variables.
18. To end AS  
Type :     END AS     < Enter >  
Type :     LOGOUT     < Enter >

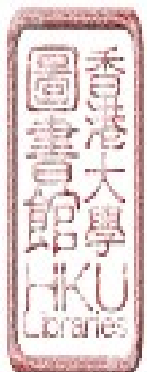




EXHIBIT XV. LIST OF ABBREVIATIONS

ANOVA	Simple Analysis of Variance
BS	Building Services
CEO	Chief Executive Officer
C&P	Construction and Property Sector
DMU	Decision making unit
E&M	Electrical and mechanical
GDP	Gross Domestic Product
HSIC	Hongkong Standard Industrial Category
IMP	International Marketing and Purchasing
ISIC	International Standard Industrial Category
MANOVA	Multiple Analysis of Variance
VTC	Vocational Training Council

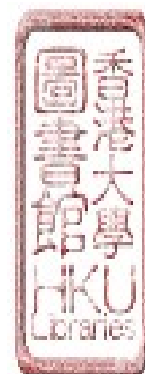
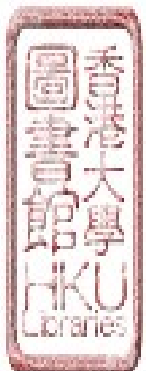
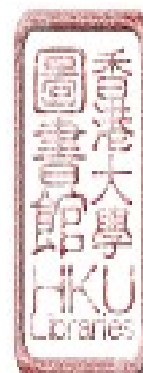


EXHIBIT XVI. BIBLIOGRAPHY

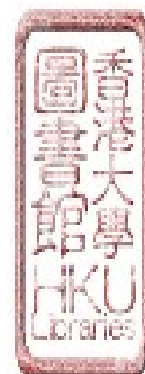
- Aaker, David A. (1971), "Multivariate Analysis in Marketing: Theory & Application," Wadsworth Publishing Co.
- Alderson, Wroe(1958),"The Analytical Framework For Marketing," Proceedings:Conference of Marketing Teachers from Far Western States, University of California.
- Alston ,Jon P. " Wa, Guanxi and Inhwa : Managerial Principles in Japan, China, and Korea " in Business Horizons MARCH-APRIL, 1989.
- Arnaud, J.M.,R. Salle, and J. P. Valla, (1986), " The Components of the Complexity of International Supplier- customer Relationships," in Research in International Marketing , Croom Helm Ltd.
- Axelsson, B. and H. Hakansson, (1986), " The Development Role of Purchasing in an Internationally Oriented Company," in Research in International Marketing , Croom Helm Ltd.
- Barnard, Chester, 1938, " The Function of the Executive ", Harvard University Press.
- Bagozzi, R.P.," Marketing as Exchange," in Journal of Marketing, October 1975.
- Barrett, N.J. and Wilkinson, (1986), " Internationalization Behaviour: Management Characteristics of Australian Manufacturing Firms by Level Of International Development," in Research in International Marketing , Croom Helm Ltd.
- Bernstein, Ira H., Garbin, P. Calvin and Teng, K. Gary, 1988, " Applied Multivariate Analysis, " Springer-Verlag.
- Borden, N. H., " The Concept of Marketing Mix " in Journal of Advertising Research, JUNE 1964.
- Bradley, M.F.( 1986), " Developing Communication Strategies for Foreign Market Entry," in Research in International Marketing, Croom Helm Ltd.
- Bucklin, Louis P., " Retailing Strategy and the Classification of Consumer Goods " in Journal of Marketing, JANUARY, 1963.
- Building Journal a, " A Practice in Harmony with the Growth of Hong Kong", September 1989.



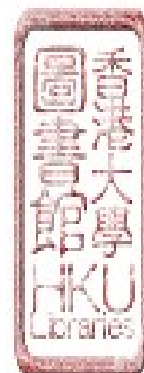
- Building Journal b, " A Multidiscipline Engineer Response to Clients' Requirements," March 1987.
- Building Journal c, " Project Management, New-Needed Wave of the Future, " December, 1989.
- Burg, Eeke van der, 1988, " Nonlinear Canonical Correlation and Some Related Techniques, " DSWO Press.
- Cameron, Nigel, 1979, " The Hongkong Land Company Ltd-- A brief history, " Hong Kong.
- Cheung Terence, William Chan & Dick Wong, 1990, " The Marketing of SLR Cameras in Hong Kong", unpublished dissertation in the Mong Kwok Ping Data Bank of the University of Hong Kong Business School.
- Chiu, James a, " Close up. ", in Journal of Hong Kong Institute of Engineers, VOL 16, NO.11, NOVEMBER, 1985.
- Chiu, James b, " Managing Complex E&M Contracts " in Hong Kong Electrical Contractors' Association Limited, VOL. 5, 1991.
- Chou, C. S., " The History of Building Development in Hong Kong," in Journal of HK Institute of Engineers, VOL 13, NO. 2 , FEBRUARY, 1985.
- Chung Kenneth, Carey Cheung & Dorothy Yeung, 1990, " Marketing & Purchasing Strategies Research in Life Insurance Industry of Hong Kong", unpublished dissertation in the Mong Kwok Ping Data Bank of the University of Hong Kong Business School.
- Cunningham, Malcolm T. and Eling Homse, " Controlling the Marketing-Purchasing Interface: Resource Development and Organizational Implications" in Industrial Marketing & Purchasing Vol 1, number 2, 1986.
- Cunningham, Malcolm T, and T. Roger Pyatt, " Marketing and Purchasing Strategies in the Distribution Channels of Mid-range Computers " in European Journal of Marketing Vol 23, no 2. 1989.
- Dillon, William R., and Matthew Goldstein , ( 1984), " Multivariate Analysis--Methods and Applications ", John Wiley & Sons.
- Drucker, Peter F., "Marketing and Economic Development," in Journal of Marketing, JANUARY 1958.



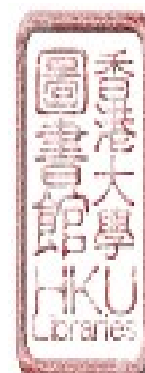
- Enis, B.M. and Keith K. Cox (1985), "Marketing Classics--A Selection of Influential Articles," 5th Edition, Allyn and Bacon, Inc.
- Ford, David, ( 1990), "Buyer/ Seller Relationships in International Industrial Markets" in Understanding Business Markets, Academic Press Ltd.
- Ford, David, 1984, " Factors in Buyer-Seller Interaction in International Industrial Marketing", paper under review as at Jan., 1984.
- Ford, David, et al ( 1986), " Export Development from the Third World: a Structure for the Analysis of Buyer/ Seller Relationships", Staff Paper #23, National Center for Export-Import Studies.
- Freiman, David (1983), Editor, "What Every Manager Needs to Know about Marketing, from the American Management Association's Best Selling Management Handbook."
- Gittins, R.,(1985), " Canonical Analysis: A Review with Applications in Ecology," Springer-Verlag.
- Haas, Robert W., (1989), " Industrial Marketing".
- Hamilton, Gary, 1991, " Business Networks and Economic Development in East and South East Asia," University of Hong Kong.
- Hakansson, H., Editor, ( 1982), " International Marketing and Purchasing of Industrial Goods, An Interaction Approach-- by IMP Project Group ", John Wiley & Sons.
- Hakansson, H. ( 1986), "Technical Exchange within Industrial Networks," in Research in International Marketing , " Croom Helm Ltd.
- Howard, J.A. and J. N. Sheth,(1973), A Model of Industrial Buying Behaviour," in Journal of Marketing, Vol 37, 4 October, 1973.
- Isenberg, D.J., " How Senior Managers Think ", Harvard Business Review, 11/12 1984.
- Johanson, J. and L. Gunnar-Mattsson, ( 1986), "International Marketing and International Processes- A Network Approach," in Research in International Marketing, Croom Helm Ltd.



- Katona, G. , "Rational Behaviour and Economic Behaviour," in Psychological Review, September 1953.
- Kay, Michele, 1976 , " Doing Business in Hong Kong ", South China Morning Post
- Keith, R.J., "The Marketing Revolution," in Journal of Marketing, JANUARY, 1960.
- Kotter, John P., 1982, " The General Managers ", Free Press, New York.
- Kotler, P. and S. J. Levy, " Broadening the Concept of Marketing," in Journal of Marketing, APRIL 1972.
- Lau, C.K. " Contracting in the 90's " in Hong Kong Electrical Contractors' Association Limited, VOL. 5, 1991.
- Levine, Mark S., (1977)," Canonical Analysis and Factor Comparison," Editor: Uslander, E.M., Sage Publication.
- Levitt, Theodore , "Marketing Myopia," Harvard Business Review, August, 1960.
- Lin, S. H., "Marketing Information System " ,1970, Dow Chemical ( HK ).
- Lunneborg, Clifford E., and Robert D. Abbott, 1983, "Elementary Multivariate Analysis for the Behavioral Sciences--Applications of Basic Structure," Elsevier Science Publishing Co., Inc.
- Marascuilo, Leonard A., and Joel R. Levin, 1983, "Multivariate Statistics in the Social Sciences-- a Researcher's Guide", Brooks/Cole Publishing Co.
- Moller, K.E., (1986), " Buying Behaviour of Industrial Components; Inductive Approach for Descriptive Model Building," in Research in International Marketing , " Croom Helm Ltd.
- Neidell, Lester A., ( 1983 ), " Strategic Marketing Management-- an Integrated Approach", Macmillan Publishing Company.
- O'Driscoll, A., (1986), " The Change to Industry Maturity: an Irish Firm's Experience", in Research in International Marketing , Croom Helm Ltd.



- Osborne, G. J., " Diversity of Electrical & Mechanical Services in Government, " in Journal of Hong Kong Institute of Engineers, November, 1984.
- Otis, 1989, " Otis Centenary ".
- Paliwoda, S. J. and P. Thomson, (1986). " Industrial Product Class and Market Behaviour: A Study in the French Packaging Market," in Research in International Marketing , Croom Helm Ltd.
- Pang, Anthony, 1984, " A Study on the Marketing of Polystyrenes in Hong Kong - the Buyer-Seller Interaction Approach " , University of Hong Kong, Code MBA100.
- Porter, Michael E., "Competitive Strategy -Techniques for Analyzing Industries and Competitors " 1980, The Free Press, NY.
- Pyatt, R., 1991, unpublished notes on " Marketing Management".
- Redding, S. Gordon, " The Spirit of Chinese Capitalism ", Walter de Gruyter, N.Y.
- Reid, K. (1986)," Migration, Cultural Distance and International Market Expansion," in Research in International Marketing , Croom Helm Ltd.
- Shostack, " Breaking Free from Product Marketing " , in Journal of Marketing, 4/1977.
- Sheth, J.N., " A Model of Industrial Buying Behaviour, " in Journal of Marketing, vol. 37, Oct. 1973.
- Sheth, J.N., ( 1977 ) " Multivariate Methods for Market and Survey Research ", American Marketing Association.
- Sheth, J.N., D. M. Gardner, and D. E. Garrett, 1988," Marketing Theory: Evolution and Evaluation," John Wiley & Son.
- Spiegel, Murray R., 1972, " Schaum's Outline Series, Theory and Problems of Statistics" .
- Stacey, N. and A. Wilson, 1969, " Industrial Marketing Research, Management and Technique," Hutchinson & Co.
- Thackray, John " Guru on the Riverbank " in Management Today, August 1989.



- Thomas, M.J. and L. Araujo, 1986 , " Export Behaviour: Directions for Future Research," in Research in International Marketing , Croom Helm Ltd.
- Thorndike, Robert M., 1978, " Correlational Procedures for Research, " Gardner Press, Inc.
- Turnbull, P. W., 1986, " Tripartite International - The Role of Sales Subsidiaries in International Marketing," in Research in International Marketing , Croom Helm Ltd.
- Turnbull, P.W. and S. Ellwood, 1986, " Internationalization in the Information Technology Industry," in Research in International Marketing , Croom Helm Ltd.
- Turnbull, P. and S. Paliwoda, 1986 , Editors, " Research in International Marketing," Croom Helm Ltd.
- Vail, Tony, in " Sustainability : The Role of the Engineers," in Journal of HK Institute of Engineers, March, 1990.
- Walker, O.C., et al, "Motivation and Performance in Industrial Selling: Present Knowledge and Needed Research ", in Journal of Marketing Research, May 1977.
- Walker, Anthony & Stephen M. Rowlinson, 1990, " The Building of Hong Kong, " Hong Kong University Press.
- Webster, F.E. Jr. and Y. Wind, 1972 , "Organizational Buying Behavior," Prentice-Hall, Inc.
- Webster, F.E. Jr. and Y. Wind , 1972 , " A General Model for Understanding Organizational Buying Behaviour," in Journal of Marketing, Vol 36, No 2 April 1972.
- Wilson, D.T. and A. Ghoneim, 1986, " Transferring Organizational Buying Theory Across Cultural Boundaries," in Research in International Marketing, Croom Helm.
- Yang, C. F. et al, 1989 , "Hong Kong Marketing Management at the Crossroads ".

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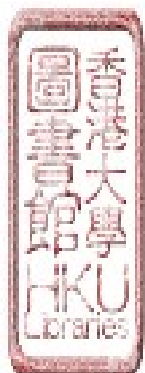
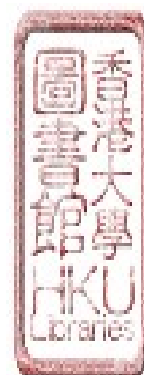


EXHIBIT XVII. COMPUTER PRINTOUTS

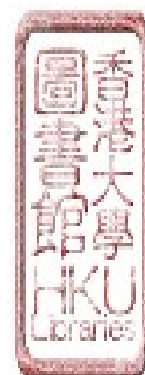




Buyer Statement	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	Mean	s.d.
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5	3	4	2	1	3	2	1	1	2	3	1	4	2	3	3	4	1	2	2	2	2	2	2	3	4	3	2	2.33	0.94
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8	2	2	3	2	3	2	3	3	3	3	2	3	3	3	3	4	1	3	1	3	3	2	2	3	1	3	2	2.51	0.73
9	3	2	2	3	3	2	2	2	2	2	2	3	2	3	3	5	1	1	2	2	2	2	2	2	4	3	3	2.40	0.82
10	2	2	2	1	2	2	1	1	2	2	1	3	4	2	2	2	1	4	2	2	3	2	2	1	4	2	2	2.07	0.85
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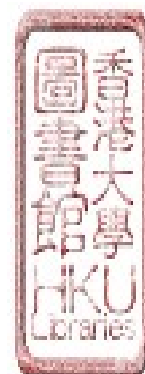
## Buyers' Raw Data

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68	2	2	2	1	2	3	1	2	3	5	3	3	2	2	2	3	1	2	3	3	2	3	3	2	3	3	2	2.40	0.82
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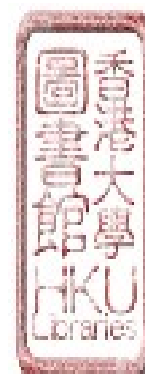
Seller's Raw Data

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Statement																																			
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8	1	2	2	2	3	3	3	3	3	2	2	3	1	3	2	2	3	1	2	2	2	2	1	2	3	2	2	2	2	3	3	2	2.21	0.64	
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Sellers' Raw Data

Seller	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Mean	S.D.	
Statement																																			
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Technical skill ( variables C1-C9 ) : Market commitment ( variables C19-C24 )

## TECHNICAL CORRELATION

## CORRELATION COEFFICIENT MATRIX

VARIABLE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H19	H20	H21	H22	H23	H24
H1 :C1	1.00000	0.54610	0.68832	0.61394	0.67224	0.51696	0.54876	-0.00588	0.42488	0.30786	0.54062	0.44910	0.53892	0.50517	0.32713
H2 :C2	0.54610	1.00000	0.56811	0.48090	0.67651	0.48571	0.51418	0.51808	0.40925	0.42016	0.18516	0.08409	0.62926	0.24527	0.27487
H3 :C3	0.68832	0.56811	1.00000	0.68010	0.72071	0.73571	0.74767	0.28467	0.53025	0.31094	0.42762	0.09766	0.07740	0.28629	0.39208
H4 :C4	0.61394	0.48090	0.68010	1.00000	0.70989	0.71536	0.75375	0.35468	0.46781	0.39912	0.42888	-0.01800	0.29426	0.08645	0.14981
H5 :C5	0.67224	0.67651	0.72071	0.70989	1.00000	0.73477	0.71268	0.22350	0.60214	0.34292	0.49334	0.54062	0.54982	0.74659	0.55607
H6 :C6	0.51696	0.48571	0.73571	0.71536	0.73477	1.00000	0.80714	0.39983	0.50872	0.21827	0.25901	-0.05653	0.32689	0.19043	0.26563
H7 :C7	0.54876	0.51418	0.74767	0.75375	0.71268	0.80714	1.00000	0.35247	0.60535	0.42534	0.40823	0.03327	0.60723	0.25582	0.36252
H8 :C8	-0.00588	0.51808	0.28467	0.35468	0.22350	0.39983	0.35247	1.00000	0.22313	0.47197	0.11026	0.14138	0.27407	0.08666	-0.08666
H9 :C9	0.42488	0.40925	0.53025	0.46781	0.60214	0.50872	0.60535	0.22313	1.00000	0.31974	0.44940	0.19129	0.39480	0.23675	0.32424
H19 :C19	0.30786	0.42016	0.31094	0.39812	0.34292	0.21827	0.42534	0.47197	0.31974	1.00000	1.00000	0.57813	0.54982	0.60723	0.55200
H20 :C20	0.54062	0.18516	0.42762	0.42888	0.49334	0.25901	0.40823	0.11026	0.26449	0.44940	1.00000	0.57813	0.54982	0.60723	0.55200
H21 :C21	0.44910	0.08409	0.09766	-0.01800	0.19424	-0.05653	-0.03327	-0.14138	0.27603	0.19129	0.57813	1.00000	0.54982	0.60723	0.55200
H22 :C22	0.53892	0.62926	0.47740	0.29426	0.62713	0.32689	0.38944	0.27407	0.34412	0.39480	0.68610	0.54982	1.00000	0.74659	0.48560
H23 :C23	0.50517	0.24527	0.28629	0.08645	0.42062	0.19043	0.25582	-0.01905	0.32731	0.23675	0.70961	0.60723	0.74659	1.00000	0.55607
H24 :C24	0.32713	0.27487	0.39208	0.14981	0.41582	0.26563	0.36252	-0.08666	0.31582	0.32424	0.55200	0.22793	0.48560	0.55607	1.00000

Technical skill ( variables C1-C9 ) : Market commitment ( variables C19-C24 )

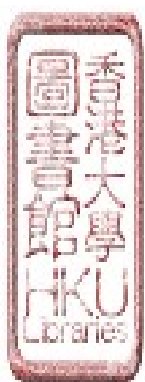
PURCHASERS'

COEFFICIENTS FOR RIGHT HAND VARIABLES

LEFT HAND VARIABLES REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT	CANONICAL CORRELATION	H19	H20	H21	H22	H23	H24
0	0.79678	0.89263	0.01050	82.02053	54	99.172	0.89263	-0.17007	0.94223	0.28448	0.16016	0.07621	0.38424
1	0.73867	0.85946	0.05165	53.33774	40	92.204	-0.12370	-0.20798	-0.35858	0.83352	-0.32949	0.09774	-0.08598
2	0.62927	0.79011	0.19765	29.18247	28	59.668	0.85946	0.26864	-0.36841	0.54186	0.13737	0.68719	-0.08598
3	0.52746	0.57225	0.52605	11.56253	18	13.102	0.79011	0.26864	-0.36841	0.54186	0.13737	0.68719	-0.08598
4	0.13859	0.37228	0.78219	4.42191	10	7.369	0.57225	-0.60443	0.54760	-0.23051	0.01932	-0.11343	0.51809
5	0.09197	0.30326	0.90803	1.73652	4	21.593	0.37228	0.39596	-0.23630	-0.27887	-0.52616	0.61902	0.22265
							0.30326	-0.18614	-0.02691	-0.48644	0.09104	0.70140	-0.47724

COEFFICIENTS FOR LEFT HAND VARIABLES

LEFT HAND VARIABLES REMOVED	H1	H2	H3	H4	H5	H6	H7	H8	H9
0	-0.27289	0.66720	0.00640	-0.32705	-0.42067	0.58024	-0.31956	-0.54736	0.26905
0.89263	-0.43885	0.59317	0.19244	0.00151	0.16531	-0.08165	0.16477	-0.01914	-0.20149
0.85946	1.24066	-0.38199	-0.34794	-0.94755	0.69198	-0.40742	0.08962	0.59238	0.34595
0.79011	-0.23694	-0.32233	0.53841	-0.26883	0.65406	0.02263	0.21151	-0.45153	-0.32294
0.57225	-0.03129	-0.07820	-0.22796	-0.37987	-0.27533	-0.02502	0.23652	0.01162	0.16508
0.37228	0.25573	-0.31087	-0.41884	-0.58368	0.48509	0.42895	0.11594	0.36997	-0.44850

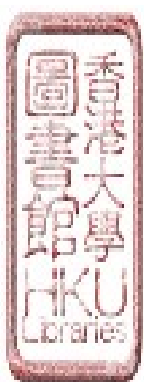


Technical skill ( variables C1-C9 ) : Company commitment ( variables C25-C29 )

CONJUNCTION CORRELATION

CORRELATION COEFFICIENT MATRIX

VARIABLE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H25	H26	H27	H28	H29
H1 :C1	1.00000	0.54610	0.68832	0.61394	0.67224	0.51696	0.54876	-0.00588	0.42488	0.44675	0.43203	0.21832	0.26353	-0.08919
H2 :C2	0.54610	1.00000	0.56811	0.48090	0.67651	0.48571	0.51418	0.51808	0.40925	0.43574	0.23939	0.41852	0.50518	0.10845
H3 :C3	0.68832	0.56811	1.00000	0.68010	0.72071	0.73571	0.74767	0.28467	0.53025	0.51732	0.23457	0.32931	0.43000	0.02661
H4 :C4	0.61394	0.48090	0.68010	1.00000	0.70989	0.71536	0.75375	0.35468	0.46781	0.31776	0.37796	0.42930	0.36298	-0.00150
H5 :C5	0.67224	0.67651	0.72071	0.70989	1.00000	0.73477	0.71268	0.22350	0.60214	0.60550	0.47303	0.20570	0.54174	0.14604
H6 :C6	0.51696	0.48571	0.73571	0.71536	0.73477	1.00000	0.80714	0.39983	0.50872	0.28707	0.20520	0.24769	0.36600	-0.01614
H7 :C7	0.54876	0.51418	0.74767	0.75375	0.71268	0.80714	1.00000	0.35247	0.60535	0.50650	0.36498	0.39410	0.43364	0.10739
H8 :C8	-0.00588	0.51808	0.28467	0.35468	0.22350	0.39983	0.35247	1.00000	0.22313	0.37410	0.11608	0.34179	0.41257	-0.04036
H9 :C9	0.42488	0.40925	0.53025	0.46781	0.60214	0.50872	0.60535	0.22313	1.00000	0.62058	0.04362	0.13823	0.39124	-0.12609
H25 :C25	0.44675	0.43574	0.51732	0.31776	0.30372	0.28707	0.50650	0.37410	0.62058	1.00000	0.11936	0.38130	0.37095	-0.00717
H26 :C26	0.43203	0.23939	0.23457	0.37796	0.47303	0.20520	0.36498	0.11608	0.04362	0.11936	1.00000	-0.04601	0.18511	-0.01623
H27 :C27	0.21832	0.41852	0.32931	0.42930	0.20570	0.24769	0.39410	0.34179	0.13823	0.38130	-0.04601	1.00000	0.15533	0.15602
H28 :C28	0.26353	0.50518	0.43000	0.36298	0.54174	0.36600	0.43364	0.41257	0.39124	0.37095	0.18511	0.15533	1.00000	0.09294
H29 :C29	-0.08919	0.10845	0.02661	-0.00150	0.14604	-0.01614	0.10739	-0.04036	-0.12609	-0.00717	-0.01623	0.15602	0.09294	1.00000



Technical skill ( variables C1-C9 ) : Company commitment ( variables C25-C29 )

PURCHASERS\*

EIGENVALUES		LARGEST		CANONICAL		CHI SQUARE		DF		% POINT	
REMOVED	EIGENVALUE	CORRELATION	LAMBDA								
0	0.81838	0.90465	0.03004			64.84799	45	97.216			
1	0.62830	0.79265	0.16539			33.28960	32	59.571			
2	0.35599	0.59665	0.44496			14.98059	21	17.632			
3	0.23234	0.48201	0.69092			6.83995	12	13.199			
4	0.09997	0.31618	0.90003			1.94851	5	14.378			

COEFFICIENTS FOR LEFT HAND VARIABLES

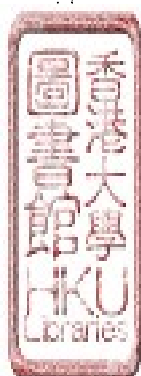
COEFFICIENTS FOR RIGHT HAND VARIABLES		CANONICAL		CHI SQUARE		DF		% POINT	
		0.90465	0.46448	0.75390	0.19330	0.37997	0.18481		
		0.79265	-0.78825	0.44726	0.25919	0.03992	0.33144		
		0.59665	0.28744	0.28924	-0.88085	-0.18297	0.15607		
		0.48201	-0.07665	-0.47403	-0.31424	0.66422	0.47905		
		0.31618	-0.44824	0.06370	-0.03555	0.61577	-0.64388		

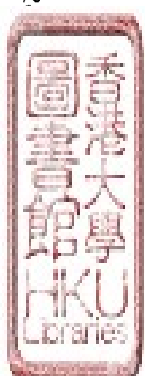
CANONICAL		LARGEST		CANONICAL		CHI SQUARE		DF		% POINT	
CORRELATION	#1	#2	#3	#4	#5	#6	#7	#8	#9		
0.90465	0.54544	-0.43160	-0.04140	-0.29851	1.18576	-1.18142	1.03874	0.77627	-0.20543		
0.79265	-0.35799	0.06402	-0.38950	0.36380	0.75313	-0.08873	0.27007	-0.26462	-0.93088		
0.59665	0.66236	-1.10862	-0.26323	-0.98510	1.23983	-0.30078	0.10216	0.40686	-0.01040		
0.48201	-1.14004	0.39953	0.52431	-0.45034	0.74951	0.03031	-0.18583	-0.21425	0.12922		
0.31618	0.21219	-0.27572	-0.35585	0.35730	0.42896	0.84039	-1.28258	0.44154	0.16849		



Canonical Correlation Technical skill ( variables C1-C9 ) : Distance ( variables C30-C40 )  
 CORRELATION COEFFICIENT MATRIX

variable	#1	#2	#3	#4	#5	#6	#7	#8	#9	#30	#31	#32	#33	#34
#1 :C1	1.00000	0.54610	0.60832	0.61394	0.67224	0.51696	0.54876	-0.00588	0.42488	0.03711	0.39666	0.12914	0.43451	0.43385
#2 :C2	0.54610	1.00000	0.56011	0.40090	0.67651	0.48571	0.51418	-0.51808	0.40925	-0.31332	-0.33674	-0.11103	0.34703	0.26758
#3 :C3	0.60832	0.56011	1.00000	0.68010	0.72071	0.73571	0.74767	0.28467	0.53025	0.12156	0.54938	0.40888	0.46082	0.46904
#4 :C4	0.61394	0.48090	0.68010	1.00000	0.70989	0.71536	0.75375	0.46781	0.40276	0.48780	0.45136	0.42038	0.22670	0.09085
#5 :C5	0.67224	0.67651	0.72071	0.70989	1.00000	0.73477	0.71268	0.22350	0.60214	0.02323	0.47187	0.60132	0.39941	0.17950
#6 :C6	0.51696	0.48571	0.73571	0.71536	0.73477	1.00000	0.80714	0.39983	0.50872	0.26856	0.60132	0.19826	0.45136	-0.01024
#7 :C7	0.54876	0.51418	0.74767	0.75375	0.71268	0.80714	1.00000	0.35247	0.60535	0.11240	0.39941	0.16003	0.42038	-0.00429
#8 :C8	-0.00588	0.51808	0.28467	0.35468	0.22350	0.39983	0.35247	1.00000	0.22313	0.28360	0.17950	0.21960	0.22670	0.08536
#9 :C9	0.42488	0.40925	0.53025	0.46781	0.60214	0.50872	0.60535	0.22313	1.00000	-0.15320	0.19485	0.31613	0.09085	0.26666
#30 :C30	0.03711	0.31332	0.12156	0.16864	0.02323	0.26856	0.11240	0.28360	-0.15320	1.00000	0.19399	-0.19133	0.12983	-0.11078
#31 :C31	0.39666	0.33674	0.54938	0.59306	0.47187	0.60132	0.39941	0.17950	0.19485	0.19399	1.00000	0.12922	0.38821	-0.04282
#32 :C32	0.12914	0.11103	-0.04121	0.05248	0.10473	0.19826	0.16003	0.21960	0.31613	-0.19133	0.12922	1.00000	0.42514	0.30410
#33 :C33	0.43451	0.34703	0.29605	0.40276	0.48780	0.45136	0.42038	0.22670	0.09085	0.12983	0.38821	0.42514	1.00000	0.25244
#34 :C34	0.43385	0.26758	0.02979	0.08538	0.12288	-0.01024	-0.00429	0.08536	0.26666	-0.11078	-0.04282	0.30410	0.25244	1.00000
#35 :C35	0.39894	0.46082	0.40888	0.47617	0.38772	0.63521	0.48578	0.36829	0.18691	0.30903	0.48739	0.34622	0.53389	0.08112
#36 :C36	0.66208	0.44313	0.46904	0.65575	0.45772	0.44840	0.47468	0.19241	0.12267	0.13884	0.50642	0.29285	0.63118	0.36171
#37 :C37	0.55396	0.54825	0.47254	0.62414	0.66458	0.49417	0.59997	0.32648	0.41107	-0.04090	0.29245	0.44643	0.55019	0.28535
#38 :C38	0.46080	0.30123	0.44696	0.41697	0.19017	0.44467	0.42998	0.23768	0.09206	0.33977	0.28222	-0.02090	0.20088	-0.05038
#39 :C39	0.15509	0.13333	-0.13526	-0.05988	-0.00331	-0.15986	-0.02989	-0.06806	0.47834	-0.07460	-0.24829	0.42768	-0.01850	0.58703
#40 :C40	-0.05260	0.35369	-0.02685	0.00641	0.16164	0.06921	0.10428	0.22937	0.33991	0.01214	0.06710	0.42938	0.16939	0.04167





H41 :c41	0.24951	0.17657	0.13067	0.30540	0.11993	0.24077	0.24112	0.13621	-0.11517	0.61105	0.2	3363		
H42 :c42	0.12069	-0.00764	0.09134	0.03161	0.08898	0.16378	0.31359	-0.25601	0.05179	0.18439	0.19925	0.21821	0.38152	-0.15064
H43 :c43	0.25560	0.18088	0.26345	0.25981	0.40144	0.32299	0.41475	-0.00367	0.22286	0.05667	0.24783	0.17605	0.54136	0.00295
H44 :c44	0.37521	0.33090	0.43655	0.64530	0.52114	0.62357	0.60298	0.25155	0.34800	0.18970	0.61945	0.24288	0.56613	-0.00505
H45 :c45	0.07163	0.29033	0.19835	0.18680	0.19058	0.33123	0.21698	0.26654	-0.17038	0.51800	0.41721	-0.15110	0.16918	-0.43930
H46 :c46	0.11311	-0.36929	0.10293	-0.10675	-0.04425	0.06974	0.04568	-0.36778	-0.20305	-0.02926	0.05187	-0.25500	0.05277	-0.25860
H47 :c47	0.34758	-0.01732	0.22000	0.13373	0.18860	0.31754	0.22265	-0.14440	-0.09206	0.34732	0.26811	-0.17513	0.23774	-0.04552

VARIABLE	H35	H36	H37	H38	H39	H40	H41	H42	H43	H44	H45	H46	H47
H1 :c1	0.39894	0.66208	0.55396	0.46080	0.15509	-0.05260	0.24951	0.12069	0.25560	0.37521	0.07163	0.11311	0.34758
H2 :c2	0.46082	0.44313	0.54825	0.30123	0.13333	0.35369	0.17657	-0.00764	0.18088	0.33090	0.29033	-0.36929	-0.01732
H3 :c3	0.40888	0.46904	0.47254	0.44696	-0.13526	-0.02685	0.13067	0.09134	0.26345	0.43655	0.19835	0.10293	0.22000
H4 :c4	0.47617	0.65575	0.62414	0.41697	-0.05988	0.00641	0.30540	0.03161	0.25981	0.64530	0.18680	-0.10675	0.13373
H5 :c5	0.38772	0.45772	0.66458	0.19017	-0.00331	0.16164	0.11993	0.08898	0.40144	0.52114	0.19058	-0.04425	0.18860
H6 :c6	0.63521	0.44840	0.49417	0.44467	-0.15986	0.06921	0.24077	0.16378	0.32299	0.62357	0.33123	0.06974	0.31754
H7 :c7	0.48578	0.47468	0.59997	0.42998	-0.02989	0.10428	0.24112	0.31359	0.41475	0.60298	0.21698	0.04568	0.22265
H8 :c8	0.36829	0.19241	0.32648	0.23768	-0.06806	0.22937	0.13621	-0.25601	-0.00367	0.25155	0.26654	-0.36778	-0.14440

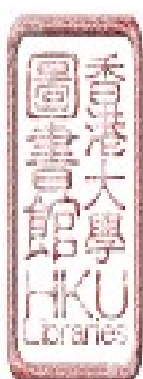
H9 :c9	0.18691	0.12267	0.41107	0.09206	0.47834	0.33991	-0.11517	0.05179	0.22286	0.34800	-0.17038	-0.20305	-0.09206
H30 :c30	0.30903	0.13884	-0.04090	0.33977	-0.07460	0.01214	0.61105	0.18439	0.05667	0.18970	0.51800	-0.02926	0.34732
H31 :c31	0.48739	0.50642	0.29245	0.28222	-0.24829	0.06710	0.28442	0.19925	0.24783	0.61945	0.41721	0.05187	0.26811
H32 :c32	0.34622	0.29285	0.44643	-0.02090	0.42768	0.42938	-0.04535	0.21821	0.17605	0.24288	-0.15110	-0.25500	-0.17513
H33 :c33	0.53389	0.63118	0.55019	0.20088	-0.01850	0.16939	0.30554	0.38152	0.54136	0.56613	0.16918	0.05277	0.23774
H34 :c34	0.08112	0.36171	0.28535	-0.05038	0.58703	0.04167	-0.33363	-0.15064	0.00295	-0.00505	-0.43930	-0.25860	-0.04552
H35 :c35	1.00000	0.61947	0.57778	0.64535	0.04042	0.24089	0.24332	0.20854	0.18445	0.57202	0.27873	0.07207	0.33607
H36 :c36	0.61947	1.00000	0.74113	0.51910	0.06594	0.21022	0.25932	0.31399	0.46300	0.55896	0.17124	-0.08621	0.26117
H37 :c37	0.57778	0.74113	1.00000	0.37600	0.17249	0.27037	0.08250	0.27499	0.47691	0.43768	0.07501	-0.17869	0.16392
H38 :c38	0.64535	0.51910	0.37600	1.00000	-0.11834	0.13500	0.39890	0.22591	0.14705	0.36848	0.37958	0.28769	0.46957
H39 :c39	0.04042	0.06594	0.17249	-0.11834	1.00000	0.38068	-0.20351	0.04913	-0.13213	-0.03520	-0.51845	-0.30623	-0.21032
H40 :c40	0.24089	0.21022	0.27037	0.13500	0.38068	1.00000	-0.06999	0.23607	0.20017	0.32234	-0.01465	-0.28381	-0.20140
H41 :c41	0.24332	0.25932	0.08250	0.39890	-0.20351	-0.06999	1.00000	0.34274	0.25239	0.44920	0.64321	0.10220	0.43788
H42 :c42	0.20854	0.31399	0.27499	0.22591	0.04913	0.23607	0.34274	1.00000	0.76466	0.26434	0.23577	0.24575	0.51298
H43 :c43	0.18445	0.46300	0.47691	0.14705	-0.13213	0.20017	0.25239	0.76466	1.00000	0.37552	0.33567	0.00262	0.40229
H44 :c44	0.57202	0.55896	0.43768	0.36848	-0.03520	0.32234	0.44920	0.26434	0.37552	1.00000	0.31086	-0.00448	0.26218
H45 :c45	0.27873	0.17124	0.07501	0.37958	-0.51845	-0.01465	0.64321	0.23577	0.33567	0.31086	1.00000	-0.12324	0.26191
H46 :c46	0.07207	-0.08621	-0.17869	0.28769	-0.30623	-0.28381	0.10220	0.24575	0.00262	-0.00448	-0.12324	1.00000	0.67640
H47 :c47	0.33607	0.26117	0.16392	0.46957	-0.21032	-0.20140	0.43788	0.51298	0.40229	0.26218	0.26191	0.67640	1.00000

## CANONICAL CORRELATION

PURCHASERS'

CORRELATION COEFFICIENT MATRIX      Technical skill ( variables C1-C9 ) ; Adaptability ( variables C48-C54 )

VARIABLE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H48	H49	H50	H51	H52
H1 :C1	1.00000	0.54610	0.68832	0.61394	0.67224	0.51696	0.54876	-0.00588	0.42488	0.47059	0.48539	0.50206	0.37543	0.42514
H2 :C2	0.54610	1.00000	0.56811	0.48090	0.67651	0.48571	0.51418	0.51808	0.40925	0.18958	0.36887	0.36413	0.09117	0.11719
H3 :C3	0.68832	0.56811	1.00000	0.68010	0.72071	0.73571	0.74767	0.28467	0.53025	0.43782	0.20587	0.25413	0.37573	0.44657
H4 :C4	0.61394	0.48090	0.68010	1.00000	0.70989	0.71536	0.75375	0.35468	0.46781	0.56267	0.45771	0.45182	0.34641	0.38045
H5 :C5	0.67224	0.67651	0.72071	0.70989	1.00000	0.73477	0.71268	0.22350	0.60214	0.32343	0.61246	0.47826	0.30920	0.38857
H6 :C6	0.51696	0.48571	0.73571	0.71536	0.73477	1.00000	0.80714	0.39983	0.50872	0.47190	0.42083	0.40161	0.41095	0.48571
H7 :C7	0.54876	0.51418	0.74767	0.75375	0.71268	0.80714	1.00000	0.35247	0.60535	0.24631	0.16017	0.51144	0.26362	0.57692
H8 :C8	-0.00588	0.51808	0.28467	0.35468	0.22350	0.39983	0.35247	1.00000	0.22313	0.24631	0.43265	0.81477	0.04212	0.11883
H9 :C9	0.42488	0.40925	0.53025	0.46781	0.60214	0.50872	0.60535	0.22313	1.00000	0.29312	0.43265	0.19638	-0.01504	0.10858
H48 :C48	0.47059	0.18958	0.43782	0.56267	0.32343	0.47190	0.44308	0.24631	0.29312	1.00000	0.43265	0.81477	0.35732	0.49130
H49 :C49	0.48539	0.36887	0.20587	0.45771	0.61246	0.42083	0.39513	0.16017	0.20830	0.43265	1.00000	0.81477	0.28992	0.21663
H50 :C50	0.50206	0.36413	0.25413	0.45182	0.47826	0.40161	0.51144	0.07175	0.19638	0.49374	0.81477	1.00000	0.35732	0.25060
H51 :C51	0.37543	0.09117	0.37573	0.34641	0.30920	0.41095	0.26362	0.04212	-0.01504	0.32510	0.28992	0.35732	1.00000	0.78792
H52 :C52	0.42514	0.11719	0.44657	0.38045	0.38857	0.57692	0.29684	0.11883	0.10858	0.49130	0.21663	0.25060	0.78792	1.00000
H53 :C53	0.44282	0.16496	0.49486	0.39627	0.40473	0.53965	0.30919	0.08546	0.21568	0.40086	0.29156	0.29547	0.88137	0.73593
H54 :C54	0.29481	0.17629	0.31892	0.32408	0.38121	0.36028	0.36012	0.21871	0.27719	0.09706	0.47793	0.38940	0.19860	0.05817



VARIABLE	H53	H54
H1 :c1	0.44282	0.29481
H2 :c2	0.16496	0.17629
H3 :c3	0.49486	0.31892
H4 :c4	0.39627	0.32408
H5 :c5	0.40473	0.38121
H6 :c6	0.53965	0.36028
H7 :c7	0.30919	0.36012
H8 :c8	0.08546	0.21871
H9 :c9	0.21568	0.27719
H48 :c48	0.40086	0.09706
H49 :c49	0.29156	0.47793
H50 :c50	0.29547	0.38940
H51 :c51	0.88137	0.19860
H52 :c52	0.73593	0.05817
H53 :c53	1.00000	0.28111
H54 :c54	0.28111	1.00000

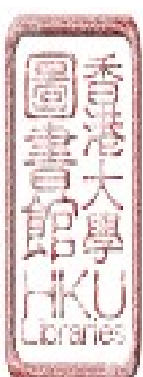
EIGENVALUES REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0	0.85048	0.92222	0.01170	77.84000	63	90.128
1	0.67400	0.82098	0.07826	44.58415	48	38.639
2	0.46491	0.68184	0.24007	24.96909	35	10.463
3	0.37454	0.61199	0.44866	14.02593	24	5.394
4	0.20038	0.44764	0.71733	5.81386	15	1.729
5	0.07642	0.27644	0.89709	1.90044	8	1.609
6	0.02868	0.16936	0.97132	0.50929	3	8.315

## COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	#1	#2	#3	#4	#5	#6	#7	#8	#9
0.92222	0.33665	-0.35867	-0.22452	-0.16844	0.63955	0.45833	-0.39901	0.26588	-0.05550
0.82098	0.05429	0.18548	-0.79272	-0.16772	0.73077	-0.40827	0.55565	-0.04087	-0.36883
0.68184	0.32014	-0.12645	-0.12324	0.24786	-0.21759	-0.29287	0.60692	0.12436	-0.19867
0.61199	-0.02199	0.36091	-0.13474	-0.07652	-0.30890	0.27211	0.11172	-0.30184	0.17519
0.44764	-0.03261	0.08770	-0.30453	-0.28120	-0.14271	0.49781	0.11395	-0.36765	-0.65268
0.27644	0.01584	0.45988	-0.10431	0.83282	-0.41996	0.19853	-0.75034	-0.38644	0.04801
0.16936	-0.33917	0.03049	0.72477	0.04470	0.54399	-0.70011	0.02672	-0.24283	-0.04230

## COEFFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL CORRELATION	#48	#49	#50	#51	#52	#53	#54
0.92222	-0.15087	0.58025	-0.26311	-0.44251	0.54559	0.27342	0.05551
0.82098	-0.41030	0.58490	-0.13180	0.36651	-0.10694	-0.50816	-0.26111
0.68184	0.42150	-0.24264	0.28577	0.60113	-0.23091	-0.48990	0.16470
0.61199	-0.17605	-0.26498	0.51290	-0.60316	0.12538	0.49705	-0.09559
0.44764	-0.30818	-0.37587	-0.35939	-0.56104	0.37536	-0.31557	-0.15372
0.27644	0.25643	0.37124	-0.24043	0.15230	-0.44407	0.38240	-0.60992
0.16936	-0.13645	0.03070	-0.04616	0.36101	-0.72884	0.54655	0.13437



## CANONICAL CORRELATION

## PURCHASERS'

CORRELATION COEFFICIENT MATRIX		Technical skill ( variables C1-C9 ) : Conflict ( variables C55-C59 )												
VARIABLE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H55	H56	H57	H58	H59
H1 :C1	1.00000	0.54610	0.68832	0.61394	0.67224	0.51696	0.54876	-0.00588	0.42488	0.49183	2.4E-16	-0.27877	-0.19943	-0.24653
H2 :C2	0.54610	1.00000	0.56811	0.48090	0.67651	0.48571	0.51418	0.51808	0.40925	0.33426	-0.27756	-0.44668	-0.20785	-0.24980
H3 :C3	0.68832	0.56811	1.00000	0.68010	0.72071	0.73571	0.74767	0.28467	0.53025	0.23368	-0.04807	-0.31175	0.09200	-0.31729
H4 :C4	0.61394	0.48090	0.68010	1.00000	0.70989	0.71536	0.75375	0.35468	0.46781	0.46051	-0.27552	-0.49775	0.06495	-0.61394
H5 :C5	0.67224	0.67651	0.72071	0.70989	1.00000	0.73477	0.71268	0.22350	0.60214	0.54279	-0.33760	-0.46798	0.00412	-0.67651
H6 :C6	0.51696	0.48571	0.73571	0.71536	0.73477	1.00000	0.80714	0.39983	0.50872	0.51224	-0.34694	-0.43167	0.00412	-0.73477
H7 :C7	0.54876	0.51418	0.74767	0.75375	0.71268	0.80714	1.00000	0.35247	0.60535	0.50960	-0.24892	-0.32106	-0.15533	-0.41071
H8 :C8	-0.00588	0.51808	0.28467	0.35468	0.22350	0.39983	0.35247	1.00000	0.22313	0.34885	-0.16596	-0.24090	-0.38664	-0.07438
H9 :C9	0.42488	0.40925	0.53025	0.46781	0.60214	0.50872	0.60535	0.22313	1.00000	0.34885	-0.25302	0.54697	0.06009	-0.39830
H55 :C55	0.49183	0.33426	0.23368	0.46051	0.54279	0.51224	0.50960	-0.13028	0.34885	1.00000	-0.25302	-0.38025	-0.38421	-0.49339
H56 :C56	2.4E-16	-0.27756	-0.04807	-0.27552	-0.33760	-0.34694	-0.24892	-0.37188	-0.16596	-0.25302	1.00000	0.54697	0.06009	0.66667
H57 :C57	-0.27877	-0.44668	-0.31175	-0.49775	-0.46798	-0.43167	-0.32106	-0.31685	-0.24090	-0.38025	0.54697	1.00000	-0.10240	0.61534
H58 :C58	-0.19943	-0.20785	0.09200	0.06495	-0.08427	0.00412	-0.15533	0.01031	-0.38664	-0.38421	0.06009	-0.10240	1.00000	0.07211
H59 :C59	-0.24653	-0.24980	-0.31729	-0.52349	-0.43406	-0.41633	-0.41071	-0.07438	-0.39830	-0.49339	0.66667	0.61534	0.07211	1.00000



COEFFICIENTS FOR RIGHT HAND VARIABLES

EIGENVALUES REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT	CANONICAL CORRELATION	H55	H56	H57	H58	H59
0	0.72322	0.85042	0.03738	60.80083	45	94.195	0.85042	-0.82525	0.41238	0.04416	0.01860	-0.38289
1	0.58364	0.76396	0.13506	37.03728	32	75.231	0.76396	0.13260	0.63283	0.11105	0.17142	-0.73500
2	0.48868	0.69906	0.32432	20.82765	21	53.051	0.69906	0.23239	-0.39786	-0.05884	0.85785	0.21984
3	0.28661	0.53536	0.63442	8.41843	12	24.836	0.53536	-0.54529	0.10385	-0.67890	-0.35693	-0.32183
4	0.11070	0.33271	0.88930	2.17041	5	17.490	0.33271	0.14984	0.45776	-0.69249	-0.00278	0.53708

COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	H1	H2	H3	H4	H5	H6	H7	H8	H9
0.85042	-0.28907	-0.29697	1.06960	-0.06644	-0.28816	-0.64503	-0.38608	0.23026	0.06945
0.76396	-0.24262	0.14793	0.40752	0.60248	-0.41143	0.01572	-0.11148	-0.62487	0.17578
0.69906	-0.56810	-0.24910	0.37996	0.45633	0.63653	0.36156	-0.51424	0.09454	-0.71766
0.53536	-0.24518	0.35798	0.17111	0.56298	-0.12189	-0.16215	-0.55928	0.25215	0.45694
0.33271	0.60428	0.38235	0.21617	-0.08509	-0.28952	0.08269	-0.38989	-0.01511	-0.32595

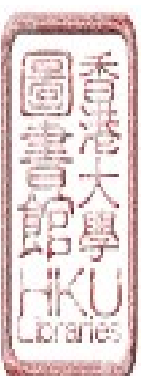


## CANONICAL CORRELATION

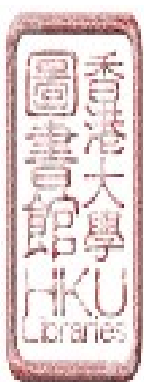
## PURCHASERS\*

CORRELATION COEFFICIENT MATRIX Technical skill ( variables C1-C9 ) : Market factors ( variables C60-C66 )

VARIABLE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H60	H61	H62	H63	H64
H1 :c1	1.00000	0.54610	0.68832	0.61394	0.67224	0.51696	0.54876	-0.00588	0.42488	0.10061	-0.17300	-0.18094	-0.24502	-0.17580
H2 :c2	0.54610	1.00000	0.56811	0.48090	0.67651	0.48571	0.51418	0.51808	0.40925	-0.13438	0.03393	-0.19167	-0.09238	-0.06628
H3 :c3	0.68832	0.56811	1.00000	0.68010	0.72071	0.73571	0.74767	0.28467	0.53025	-0.05297	0.00196	-0.14400	-0.04735	-0.04735
H4 :c4	0.61394	0.48090	0.68010	1.00000	0.70989	0.71536	0.75375	0.35468	0.46781	0.12726	0.15156	0.12726	0.06495	0.06495
H5 :c5	0.67224	0.67651	0.72071	0.70989	1.00000	0.73477	0.71268	0.22350	0.60214	0.04670	0.11309	0.04670	-0.07223	-0.07223
H6 :c6	0.51696	0.48571	0.73571	0.71536	0.73477	1.00000	0.80714	0.39983	0.50872	0.08274	-0.00761	0.46047	0.33919	0.33919
H7 :c7	0.54876	0.51418	0.74767	0.75375	0.71268	0.80714	1.00000	0.35247	0.60535	-0.11843	0.54550	0.35247	0.00000	0.00000
H8 :c8	-0.00588	0.51808	0.28467	0.35468	0.22350	0.39983	0.35247	1.00000	0.22313	0.31400	-0.17131	0.05673	0.38523	0.38523
H9 :c9	0.42488	0.40925	0.53025	0.46781	0.60214	0.50872	0.60535	0.22313	1.00000	-0.31400	0.54826	0.39666	0.33919	0.33919
H60 :c60	0.10061	-0.13438	-0.05297	0.12726	0.04670	0.08274	-0.11843	0.15314	-0.31400	1.00000	0.00000	0.00000	0.00000	0.00000
H61 :c61	-0.17300	0.03393	0.00196	0.15156	-0.03734	0.11309	-0.00761	0.54550	-0.17131	0.54826	1.00000	0.39666	0.33919	0.33919
H62 :c62	-0.18094	-0.19167	0.17032	0.30883	0.10426	0.23810	0.16442	-0.06327	-0.16941	0.46047	0.30040	1.00000	0.33919	0.33919
H63 :c63	-0.24502	-0.09238	-0.14400	-0.06495	-0.07223	0.15671	-0.31585	0.05673	-0.45108	0.38523	0.39666	0.33919	1.00000	0.67086
H64 :c64	-0.17580	-0.06628	-0.04735	-0.17134	-0.07054	0.18937	-0.15417	0.23311	-0.15192	0.29512	0.58150	0.17605	0.67086	1.00000
H65 :c65	0.03824	-0.09687	0.17182	-0.04103	-0.05387	0.02491	-0.07993	0.01731	0.15446	0.19391	0.33853	0.02906	0.19799	0.32986
H66 :c66	-0.02263	-0.14140	0.14959	0.00126	-0.08898	0.08462	-0.09082	0.07851	-0.05179	0.22710	0.43596	0.08837	0.26145	0.35737



VARIABLE	H65	H66
H1 :c1	0.03824	-0.02263
H2 :c2	-0.09687	-0.14140
H3 :c3	0.17182	0.14959
H4 :c4	-0.04103	0.00126
H5 :c5	-0.05387	-0.00898
H6 :c6	0.02491	0.08462
H7 :c7	-0.07993	-0.09082
H8 :c8	0.01731	0.07851
H9 :c9	0.15446	-0.05179
H60 :c60	0.19391	0.22710
H61 :c61	0.33853	0.43596
H62 :c62	0.02906	0.08837
H63 :c63	0.19799	0.26145
H64 :c64	0.32986	0.35737
H65 :c65	1.00000	0.78853
H66 :c66	0.78853	1.00000



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EIGENVALUES

REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0	0.82658	0.94688	0.00292	102.13950	63	29.868
1	0.81279	0.90155	0.02822	62.43224	48	92.123
2	0.58283	0.76343	0.15077	33.11032	35	44.042
3	0.35361	0.59465	0.36141	17.81073	24	18.791
4	0.30927	0.55612	0.55911	10.17451	15	19.289
5	0.16461	0.40572	0.80946	3.69933	8	11.682
6	0.03104	0.17618	0.96896	0.55180	3	9.263

COEFFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL CORRELATION		#60	#61	#62	#63	#64	#65
0	0.94688	-0.00177	-0.09027	-0.14233	-0.79426	0.28159	0.41530
1	0.90155	-0.61484	0.40463	0.54436	0.00058	-0.37952	0.12048
2	0.76343	-0.31161	-0.79429	0.15581	0.25866	0.29765	0.28491
3	0.59465	-0.40492	0.41180	-0.39093	0.48817	-0.35764	0.00794
4	0.55612	-0.44878	0.43677	-0.00637	-0.26159	0.72637	0.10835
5	0.40572	0.00133	0.27231	-0.25409	0.38239	-0.64121	0.55118
6	0.17618	-0.07996	-0.03393	-0.12196	-0.07490	-0.04503	-0.62083

COEFFICIENTS FOR LEFT HAND VARIABLES

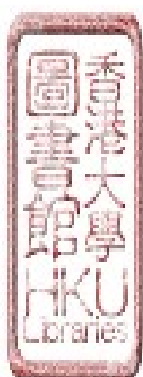
CANONICAL CORRELATION											#66
	#1	#2	#3	#4	#5	#6	#7	#8	#9		
0.94688	0.46719	-0.12092	0.00685	-0.48509	-0.17480	-0.76299	0.69651	0.14920	0.57240	-0.29829	
0.90155	-0.86208	0.22816	0.50378	0.59688	-0.20934	-0.42719	0.33375	-0.31420	0.06060	-0.05802	
0.76343	-0.46429	0.48611	0.46220	-0.20770	-0.49311	0.80444	-0.48943	-0.91919	0.34976	0.10518	
0.59465	-0.30003	1.00317	-0.48960	0.18865	-0.41039	0.10695	-0.02718	-0.33276	0.13482	-0.38388	
0.55612	-0.21499	-0.10013	0.36977	-0.59876	-0.30209	0.55038	-0.26984	0.61709	0.30835	0.00229	
0.40572	0.09268	0.11255	0.54396	0.60703	-0.43812	-0.18011	-0.99047	0.06250	0.29677	0.01049	
0.17618	0.19034	0.21878	0.19217	-0.08651	-0.69085	0.05359	0.36205	-0.08895	-0.28809	0.76453	

## CONJONICAL CORRELATION

## CORRELATION COEFFICIENT MATRIX

Technical skill ( variables C1-C9 ) ; Market activity ( variables C67-C75 )

VARIABLE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H67	H68	H69	H70	H71
H1 :c1	1.00000	0.54610	0.68832	0.61394	0.67224	0.51636	0.54876	-0.00588	0.42488	5.0E-16	0.34960	0.35240	0.11450	0.07597
H2 :c2	0.54610	1.00000	0.56811	0.48090	0.67651	0.48571	0.51418	0.51808	0.40925	0.21742	0.31722	0.24505	0.13620	0.00770
H3 :c3	0.68832	0.56811	1.00000	0.68010	0.72071	0.73571	0.74767	0.28467	0.53025	0.07532	0.32783	0.27164	-0.13979	0.23733
H4 :c4	0.61394	0.48090	0.68010	1.00000	0.70989	0.71536	0.75375	0.35468	0.46781	0.11991	0.30265	0.29654	0.07678	0.08406
H5 :c5	0.67224	0.67651	0.72071	0.70989	1.00000	0.73477	0.71268	0.22350	0.60214	0.22668	0.39136	0.38930	-0.02454	0.13644
H6 :c6	0.51636	0.48571	0.73571	0.71536	0.73477	1.00000	0.80714	0.39983	0.50872	0.15530	0.27190	0.29654	0.03243	0.40689
H7 :c7	0.54876	0.51418	0.74767	0.75375	0.71268	0.80714	1.00000	0.35247	0.60535	0.05778	0.15174	0.36646	0.43970	0.33483
H8 :c8	-0.00588	0.51808	0.28467	0.35468	0.22350	0.39983	0.35247	1.00000	0.22313	0.12947	0.06612	0.36273	1.00000	0.21316
H9 :c9	0.42488	0.40925	0.53025	0.46781	0.60214	0.50872	0.60535	0.22313	1.00000	0.05778	0.20117	0.36646	0.43970	0.06751
H67 :c67	5.0E-16	0.21742	0.07532	0.11991	0.22668	0.15530	0.35748	0.12947	0.05778	1.00000	0.20117	2.9E-16	-0.21935	0.12553
H68 :c68	0.34960	0.31722	0.32783	0.30265	0.39136	0.27190	0.26790	0.06612	0.15174	0.20117	1.00000	0.36646	0.11601	0.13736
H69 :c69	0.35240	0.24505	0.27164	0.29654	0.38930	0.40508	0.25116	0.36273	0.33491	2.9E-16	0.36646	1.00000	0.43970	0.35572
H70 :c70	0.11450	0.13620	-0.13979	0.07678	-0.02454	0.03243	0.01357	0.13968	0.20108	-0.21935	0.11601	0.43970	1.00000	-0.06407
H71 :c71	0.07597	0.00770	0.23733	0.08406	0.13644	0.40689	0.33483	0.21316	0.06751	0.12553	0.13736	0.35572	-0.06407	1.00000
H72 :c72	0.23019	0.04551	0.22466	0.35012	0.08699	0.18692	0.05612	0.13720	-0.36736	7.1E-17	0.16693	0.16131	-0.15496	0.19050
H73 :c73	0.53892	0.29123	0.33688	0.29426	0.34519	0.23031	0.14691	0.03252	0.07463	0.19787	0.39799	0.46424	0.28725	0.08707
H74 :c74	0.03618	0.05133	-0.10160	0.08734	0.08154	-0.01047	-0.03288	-0.02620	0.14614	-0.07971	0.12211	0.06930	0.58254	0.00847
H75 :c75	0.34330	0.29515	0.12700	0.09417	0.42127	-0.01129	0.05672	-0.15065	0.02101	-0.05730	0.15883	0.18266	0.18743	0.04869



VARIABLE	H72	H73	H74	H75
H1 :c1	0.23019	0.53892	0.03618	0.34330
H2 :c2	0.04551	0.29123	0.05133	0.29515
H3 :c3	0.22466	0.33688	-0.10160	0.12780
H4 :c4	0.35012	0.29426	0.08734	0.09417
H5 :c5	0.08699	0.34519	0.08154	0.42127
H6 :c6	0.18692	0.23031	-0.01047	-0.01129
H7 :c7	0.05612	0.14691	-0.03288	0.05672
H8 :c8	0.13720	0.03252	-0.02620	-0.15065
H9 :c9	-0.36736	0.07463	0.14614	0.02101
H67 :c67	7.1E-17	0.19787	-0.07971	-0.05730
H68 :c68	0.16693	0.39799	0.12211	0.15883
H69 :c69	0.16131	0.46424	0.06930	0.18266
H70 :c70	-0.15496	0.28725	0.58254	0.18743
H71 :c71	0.19050	0.08707	0.00847	0.04869
H72 :c72	1.00000	0.28401	-0.03128	0.17090
H73 :c73	0.28401	1.00000	0.24595	0.39880
H74 :c74	-0.03128	0.24595	1.00000	0.39997
H75 :c75	0.17090	0.39880	0.39997	1.00000

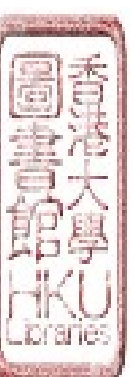
EIGENVALUES REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0	0.78933	0.88844	0.00579	84.99698	81	64.103
1	0.73364	0.85653	0.02749	59.29914	64	35.689
2	0.59275	0.76990	0.10321	37.47113	49	11.466
3	0.45184	0.67442	0.25343	22.64877	36	4.059
4	0.31458	0.56087	0.46488	12.63847	25	1.997
5	0.25459	0.50457	0.67825	6.40605	16	1.691
6	0.06801	0.26078	0.90989	1.55806	9	0.331
7	0.02093	0.14468	0.97629	0.39599	4	1.720
8	0.00284	0.05331	0.99716	0.04696	1	17.155

## COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	H1	H2	H3	H4	H5	H6	H7	H8	H9
0.88844	-0.35153	0.26000	-0.40656	-0.54636	0.82699	-0.64908	0.94171	-0.18927	0.00737
0.85653	0.26780	-0.29331	0.48980	0.03590	1.09904	-0.52392	-0.61176	0.10337	-0.34829
0.76990	0.15590	-0.43009	-0.09303	-0.26399	0.36107	0.19293	-0.48759	0.35221	0.55940
0.67442	0.47361	-0.83501	0.03356	-1.01810	0.68309	0.42611	0.95257	0.80590	-0.70516
0.56087	0.47407	0.24522	-1.03696	0.60240	-0.00615	-0.03602	0.01561	0.35108	0.02034
0.50457	0.63057	0.31951	-0.11725	-0.44806	-0.55477	0.23404	0.12637	-0.14050	0.16814
0.26078	0.69820	-0.66363	-0.39509	-0.70172	0.54364	-0.43118	0.17942	0.75819	-0.37795
0.14468	-0.15501	0.14663	0.97479	-0.04249	-0.26650	-1.13026	0.21842	-0.64125	-0.15756
0.05331	0.41850	-0.75027	-0.03890	0.20668	0.07165	-0.75877	0.66861	0.13278	0.13049

## COEFFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL CORRELATION	H67	H68	H69	H70	H71	H72	H73	H74	H75
0.88844	0.50712	0.10528	-0.01915	0.06145	-0.02981	-0.41632	-0.40654	-0.11556	0.61218
0.85653	-0.24777	0.14750	0.28932	-0.64129	-0.34732	0.05869	0.29982	0.07836	0.44921
0.76990	-0.18320	-0.12609	0.67659	-0.43338	-0.09736	-0.37263	-0.02301	0.36913	-0.14080
0.67442	0.36047	-0.01211	0.33662	-0.04542	0.77854	0.20009	-0.03207	-0.31887	0.07537
0.56087	0.40236	-0.02767	0.32336	0.62450	-0.34579	0.40503	-0.23137	0.01477	0.07354
0.50457	-0.16017	0.07187	-0.37729	0.47331	0.24423	-0.29115	0.48792	-0.46069	0.08994
0.26078	-0.02652	-0.72554	0.14821	0.22240	-0.00716	0.13987	-0.11715	-0.42960	0.42845
0.14468	0.20774	0.12837	0.34009	-0.01941	-0.53986	-0.07511	-0.00016	-0.68693	-0.23528
0.05331	0.32169	-0.47123	0.02209	-0.33108	-0.09744	-0.10436	0.58898	0.34979	-0.27334



PURCHASERS'

COMMUNAL CORRELATION  
CORRELATION COEFFICIENT MATRIX  
Commercial skill ( variables C10-C18 ) : Market commitment ( variables C19-C24

variable	H10	H11	H12	H13	H14	H15	H16	H17	H18	H19	H20	H21	H22	H23
H10 :C10	1.00000	0.40158	0.58199	0.49026	-0.14159	0.29093	0.78283	0.40158	0.01937	0.30095	0.72358	0.39600	0.51946	0.49600
H11 :C11	0.40158	1.00000	0.49834	0.41475	0.15242	0.56402	0.38623	0.36140	0.29535	0.32984	0.43536	0.00254	0.34948	0.22702
H12 :C12	0.58199	0.49834	1.00000	0.33130	-0.12885	0.36578	0.65760	0.71191	3.7E-18	0.46382	0.56211	0.30889	0.59541	0.33298
H13 :C13	0.49026	0.41475	0.33130	1.00000	0.11821	0.32839	0.49019	0.24493	0.14149	0.36778	0.54518	0.55970	0.65303	0.56770
H14 :C14	-0.14159	0.15242	-0.12885	0.11821	1.00000	0.46614	0.06355	-0.01270	0.30265	-0.11230	-0.00716	0.12859	0.00966	0.17822
H15 :C15	0.29093	0.56402	0.36578	0.32839	0.46614	1.00000	0.43812	0.16225	0.55790	0.14143	0.26145	0.07636	0.33485	0.46530
H16 :C16	0.78283	0.38623	0.65760	0.49019	0.06355	0.43812	1.00000	0.45645	0.08692	0.35947	0.63368	0.33008	0.56062	0.46530
H17 :C17	0.40158	0.36140	0.71191	0.24493	-0.01270	0.16225	0.45645	1.00000	-0.04343	0.49966	0.64116	0.26642	0.55757	0.29814
H18 :C18	0.01937	0.29535	3.7E-18	0.14149	0.30265	0.55790	0.08692	-0.04343	1.00000	-0.17383	0.10288	0.23556	0.03302	0.16929
H19 :C19	0.30095	0.32984	0.46382	0.36778	-0.11230	0.14143	0.35947	0.49966	-0.17383	1.00000	0.44940	0.19129	0.39480	0.23675
H20 :C20	0.72358	0.43536	0.56211	0.54518	-0.00716	0.26145	0.63368	0.64116	0.10288	0.44940	1.00000	0.57813	0.68610	0.70961
H21 :C21	0.39600	0.00254	0.30889	0.55970	0.12859	0.07636	0.33008	0.26642	0.23556	-0.19129	0.57813	1.00000	0.54982	0.60723
H22 :C22	0.51946	0.34948	0.59541	0.65303	0.00966	0.33485	0.56062	0.55757	0.03302	0.39480	0.68610	0.54982	1.00000	0.74659
H23 :C23	0.49600	0.22702	0.33298	0.56770	0.17822	0.41157	0.46530	0.29814	0.16929	0.23675	0.70961	0.60723	0.74659	1.00000
H24 :C24	0.49315	0.33178	0.33659	0.52496	0.12761	0.32876	0.41501	0.33178	0.23615	0.32424	0.55200	0.22793	0.48560	0.55607

VARIABLE	H24
H10 : c10	0.49315
H11 : c11	0.33178
H12 : c12	0.33659
H13 : c13	0.52496
H14 : c14	0.12761
H15 : c15	0.32876
H16 : c16	0.41501
H17 : c17	0.33178
H18 : c18	0.23615
H19 : c19	0.32424
H20 : c20	0.55200
H21 : c21	0.22793
H22 : c22	0.48560
H23 : c23	0.55607
H24 : c24	1.00000



24

EIGENVALUES LARGEST CANONICAL  
REMOVED EIGENVALUE CORRELATION

0	1	2	3	4	5
0.83655	0.76418	0.42372	0.28419	0.02678	0.00732
0.91463	0.87417	0.65094	0.53310	0.16363	0.08558
0.01536	0.09398	0.39852	0.69154	0.96610	0.99268
75.16659	42.56409	16.55296	6.63900	0.62085	0.13231
54	40	28	18	10	4
97.001	63.871	4.322	0.717	1.856E-03	0.209

DEFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	#10	#11	#12	#13	#14	#15	#16	#17	#18
0.91463	0.45786	-0.18777	0.31447	0.54295	0.18679	-0.38576	-0.15450	0.32380	0.36555
0.87417	-0.22755	0.43861	-0.45057	-0.23262	-0.36906	0.37111	0.35534	0.41832	-0.45266
0.65094	-0.51316	-0.27470	0.30577	0.43639	-0.12209	-0.46272	-0.01415	-0.12012	-0.30333
0.53310	-0.43804	0.10573	0.49603	0.03731	-0.01456	-0.64475	0.09585	-0.03420	0.14677
0.16363	-0.20206	0.61458	0.09806	0.16230	-0.08907	-0.10819	-0.26683	-0.19052	0.28108
0.08558	0.22457	0.18587	-0.39824	0.28534	0.27068	-0.15871	-0.38690	0.23615	-0.34269

COMPUTE DEFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL CORRELATION	#19	#20	#21	#22	#23	#24
0.91463	-0.02136	0.43693	0.53229	0.36042	-0.49927	0.38227
0.87417	0.22596	0.52137	-0.70473	0.29280	-0.03861	-0.30536
0.65094	0.29810	-0.77253	0.03082	0.45244	0.32303	-0.06583
0.53310	0.11520	0.00078	0.32986	0.36609	-0.85822	-0.08575
0.16363	-0.05836	-0.29381	-0.12852	0.21087	-0.47693	0.78857
0.08558	0.60302	-0.11452	0.18716	-0.70807	0.27677	0.10128



## PURCHASERS'

## COMMONAL CORRELATION

## CORRELATION COEFFICIENT MATRIX

Commercial skill ( variables C10-C18 ) ; Company commitment ( variables C25-C29

VARIABLE	H10	H11	H12	H13	H14	H15	H16	H17	H18	H25	H26	H27	H28	H29
H10 :C10	1.00000	0.40158	0.58199	0.49026	-0.14159	0.29093	0.78283	0.40158	0.01937	0.13548	0.46938	0.16868	0.41821	0.02067
H11 :C11	0.40158	1.00000	0.49834	0.41475	0.15242	0.56402	0.38623	0.36140	0.29535	0.23221	0.27018	0.35271	0.47388	0.04404
H12 :C12	0.58199	0.49834	1.00000	0.33130	-0.12885	0.36578	0.65760	0.71191	3.7E-18	0.04403	0.35596	0.31115	0.37558	0.04703
H13 :C13	0.49826	0.41475	0.33130	1.00000	0.11821	0.32839	0.49019	0.24493	0.14149	0.49083	0.24493	0.24264	0.60645	0.06688
H14 :C14	-0.14159	0.15242	-0.12885	0.11821	1.00000	0.46614	0.06355	-0.01270	0.30265	-0.07856	-0.17782	-0.09437	-0.02680	0.10489
H15 :C15	0.29093	0.56402	0.36578	0.32839	0.46614	1.00000	0.43812	0.16225	0.55790	0.07168	0.16225	0.07879	0.20109	-0.04594
H16 :C16	0.78283	0.38623	0.65760	0.49019	0.06355	0.43812	1.00000	0.45645	0.08692	0.06515	0.38623	0.27622	0.44456	0.02320
H17 :C17	0.40158	0.36140	0.71191	0.24493	-0.01270	0.16225	0.45645	1.00000	-0.04343	0.17579	0.36140	0.19323	0.47388	-0.01623
H18 :C18	0.01937	0.29535	3.7E-18	0.14149	0.30265	0.55790	0.08692	-0.04343	1.00000	0.04567	0.11936	-0.12149	-0.21081	-0.23816
H25 :C25	0.13548	0.23221	0.04403	0.49083	-0.07856	0.07168	0.06515	0.17579	0.04567	1.00000	0.11936	0.38130	0.37095	-0.00717
H26 :C26	0.46938	0.27018	0.35596	0.24493	-0.17782	0.16225	0.38623	0.36140	-0.04343	0.11936	1.00000	-0.04601	0.18511	-0.01623
H27 :C27	0.16868	0.35271	0.31115	0.24264	-0.09437	0.07879	0.27622	0.19323	0.12149	0.38130	-0.04601	1.00000	0.15533	0.15602
H28 :C28	0.41821	0.47388	0.37558	0.60645	-0.02680	0.20109	0.44456	0.47388	-0.21081	0.37095	0.18511	0.15533	1.00000	0.09294
H29 :C29	0.02067	0.04404	0.04703	0.06688	0.10489	-0.04594	0.02320	-0.01623	-0.23816	-0.00717	-0.01623	0.15602	0.09294	1.00000

COEFFICIENTS FOR RIGHT HAND VARIABLES

EIGENVALUES REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT	CANONICAL CORRELATION	#25	#26	#27	#28	#29
0	0.78720	0.88725	0.09048	44.44917	45	50.483	0.88725	0.11957	0.39716	0.21047	0.88521	-0.00821
1	0.36551	0.60458	0.42518	15.82184	32	0.746	0.60458	-0.66009	0.28633	0.67588	-0.01836	-0.15857
2	0.19491	0.44148	0.67012	7.40554	21	0.281	0.44148	-0.57100	-0.06105	-0.31150	0.40176	0.64171
3	0.14769	0.38131	0.83235	3.39482	12	0.794	0.44148	-0.09221	0.77802	-0.53417	-0.15424	-0.27760
4	0.02342	0.15303	0.97658	0.43837	5	0.579	0.38431	-0.09221	0.77802	-0.53417	0.54496	-0.60008

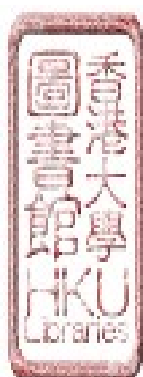
COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	#10	#11	#12	#13	#14	#15	#16	#17	#18
0.88725	-0.08024	0.48187	-0.53857	0.57827	-0.35003	0.22993	0.32646	0.59422	-0.44007
0.60458	-0.18548	0.29103	0.54290	-0.53300	0.00209	-0.44663	0.64954	-0.31223	0.30582
0.44148	0.20243	0.00887	0.28328	-0.31924	0.63183	0.13778	0.02013	-0.27747	-0.92005
0.38431	1.17468	-0.64022	-0.61416	-0.51554	-0.38575	0.90728	-0.48056	0.62881	-0.09217
0.15303	-0.36205	-0.00707	-0.90272	-0.22631	-0.23715	0.52491	1.00564	0.70635	-0.12497

## CANONICAL CORRELATION

CORRELATION COEFFICIENT MATRIX Technical skill ( variables C1-C9 ) : Distance ( variables C30-C47 )

VARIABLE	H10	H11	H12	H13	H14	H15	H16	H17	H18	H30	H31	H32	H33	H34
H10 : c10	1.00000	0.40158	0.58199	0.49026	-0.14159	0.29093	0.78283	0.40158	0.01937	-0.17838	0.14495	0.13908	0.48972	0.09837
H11 : c11	0.40158	1.00000	0.49834	0.41475	0.15242	0.56402	0.38623	0.36140	0.29535	0.10287	0.64082	0.04068	0.36402	0.16178
H12 : c12	0.58199	0.49834	1.00000	0.33130	-0.12885	0.36578	0.65760	0.71191	3.7E-18	-0.17393	0.22612	0.16509	0.64692	0.29840
H13 : c13	0.49026	0.41475	0.33130	1.00000	0.11821	0.32839	0.49019	0.24493	0.14149	-0.02394	0.30600	0.30903	0.48739	0.34622
H14 : c14	-0.14159	0.15242	-0.12885	0.11821	1.00000	0.46614	0.06355	-0.01270	0.55790	0.08145	0.15633	0.57802	0.12985	0.12422
H15 : c15	0.29093	0.56402	0.36578	0.32839	0.46614	1.00000	0.43812	0.16225	0.55790	0.23280	0.30267	0.33146	0.55973	0.09715
H16 : c16	0.78283	0.38623	0.65760	0.49019	0.06355	0.43812	1.00000	0.45645	0.08692	-0.04343	0.04289	0.39033	0.40710	0.71789
H17 : c17	0.40158	0.36140	0.71191	0.24493	-0.01270	0.16225	0.45645	1.00000	-0.04343	-0.04343	1.00000	0.23875	0.20618	0.31040
H18 : c18	0.01937	0.29535	3.7E-18	0.14149	0.30265	0.55790	0.08692	-0.04343	1.00000	0.23875	0.31040	-0.05288	0.05920	0.06979
H30 : c30	-0.17838	0.10287	-0.17393	-0.02394	-0.08145	0.23280	0.04289	-0.17573	0.23875	1.00000	0.19399	-0.19133	0.12983	-0.11078
H31 : c31	0.14495	0.64082	0.22612	0.30600	0.15633	0.30267	0.39033	0.20618	0.31040	0.19399	1.00000	0.12922	0.38821	-0.04282
H32 : c32	0.13908	0.04068	0.16509	0.16282	0.57802	0.33146	0.40710	0.19935	-0.05288	-0.19133	0.12922	1.00000	0.42514	0.30410
H33 : c33	0.48972	0.36402	0.64692	0.56632	0.12985	0.55973	0.71789	0.43310	0.05920	0.12983	0.38821	0.42514	1.00000	0.25244
H34 : c34	0.09837	0.16178	0.29840	0.33308	0.12422	0.09715	0.24528	0.09805	0.06979	-0.11078	-0.04282	0.30410	0.25244	1.00000
H35 : c35	0.22808	0.53085	0.33659	0.17756	0.16514	0.70014	0.49801	0.09953	0.23102	0.30903	0.48739	0.34622	0.53389	0.08112
H36 : c36	0.45051	0.54936	0.51247	0.46429	0.13143	0.44494	0.69506	0.38518	0.19541	0.13884	0.50642	0.29285	0.63118	0.36171
H37 : c37	0.49268	0.59262	0.47553	0.52041	0.17574	0.45464	0.56957	0.41852	0.00829	-0.04090	0.29245	0.44643	0.55019	0.28535



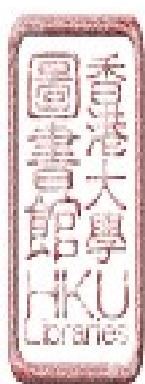
H38 : c38	0.15695	0.44040	0.15676	0.10787	-0.004195	0.57278	0.23195	0.03863	0.47820	0.33977	0.28222	-0.02090	0.20088	-0.05038
H39 : c39	-0.02179	-0.14168	-0.14069	0.25464	0.34928	-0.02152	3.9E-16	-0.14168	-0.14212	-0.07460	-0.24829	0.42768	-0.01850	0.58703
H40 : c40	0.05541	0.19884	0.25214	0.19432	0.36888	0.14959	0.19897	0.32808	-0.17844	0.01214	0.06710	0.42938	0.16939	0.04167
H41 : c41	0.11321	0.10293	-0.004177	0.13795	0.08197	0.30824	0.24719	0.15645	0.41280	0.61105	0.28442	-0.04535	0.30554	-0.33363
H42 : c42	0.16900	0.08822	0.03978	0.29376	0.27321	0.37268	0.21579	0.19016	0.36642	0.18439	0.19925	0.21821	0.38152	-0.15064
H43 : c43	0.31972	0.35217	0.38508	0.37096	0.23283	0.41638	0.31654	0.57149	0.28714	0.05667	0.24783	0.17605	0.54136	0.00295
H44 : c44	0.35967	0.61759	0.36639	0.41346	0.36606	0.52753	0.54211	0.33588	0.14753	0.18970	0.61945	0.24288	0.56613	-0.00505
H45 : c45	-0.10454	0.19858	0.08394	0.00385	-0.10858	0.21257	0.04140	0.25237	0.39433	0.51800	0.41721	-0.15110	0.16918	-0.43930
H46 : c46	0.08739	0.14372	-0.13254	0.03243	-0.04335	0.29409	-0.08716	-0.19598	0.27224	-0.02926	0.05187	-0.25500	0.05277	-0.25860
H47 : c47	0.26854	0.45019	0.06009	0.18193	0.09649	0.54783	0.17782	0.06516	0.66358	0.34732	0.26811	-0.17513	0.23774	-0.04552

## CORRELATION

## CORRELATION COEFFICIENT MATRIX

VARIABLE	H35	H36	H37	H38	H39	H40	H41	H42	H43	H44	H45	H46	H47
H10 : C10	0.22808	0.45051	0.49268	0.15695	-0.02179	0.05541	0.11321	0.16900	0.31972	0.35967	-0.10454	0.08739	0.26854
H11 : C11	0.53085	0.54936	0.59262	0.44040	0.14108	0.12094	0.10223	0.08822	0.35217	0.61759	0.19858	0.14372	0.45019
H12 : C12	0.33659	0.51247	0.47553	0.15676	-0.14069	0.25214	-0.00417	0.03970	0.38508	0.36639	0.08394	-0.13254	0.06009
H13 : C13	0.17756	0.46429	0.52041	0.10787	0.25464	0.19432	0.13795	0.29376	0.37096	0.41346	0.00385	0.03243	0.18193
H14 : C14	0.16514	0.13143	0.17574	-0.00195	0.34928	0.36888	0.08197	0.27321	0.23283	0.36606	-0.10858	-0.04335	0.09649
H15 : C15	0.70014	0.44494	0.45464	0.57278	-0.02152	0.14959	0.30824	0.37268	0.41638	0.52753	0.21257	0.29409	0.54783
H16 : C16	0.49801	0.69506	0.56957	0.23195	3.9E-16	0.19897	0.24719	0.21579	0.31654	0.54211	0.04140	-0.08716	0.17782
H17 : C17	0.09953	0.30518	0.41852	0.03863	-0.14168	0.32808	0.15645	0.19016	0.57149	0.33588	0.25237	-0.19598	0.06516
H18 : C18	0.23102	0.19541	0.00829	0.47820	-0.14212	-0.17844	0.41280	0.36642	0.28714	0.14753	0.39433	0.27224	0.66358
H30 : C30	0.30903	0.13884	-0.04090	0.33977	-0.07460	0.01214	0.61105	0.18439	0.05667	0.18970	0.51800	-0.02926	0.34732
H31 : C31	0.48739	0.50642	0.29245	0.28222	-0.24829	0.06710	0.28442	0.19925	0.24783	0.61945	0.41721	0.05107	0.26811
H32 : C32	0.34622	0.29285	0.44643	-0.02090	0.42768	0.42938	-0.04535	0.21821	0.17605	0.24288	-0.15110	-0.25500	-0.17513
H33 : C33	0.53389	0.63118	0.55019	0.20088	-0.01850	0.16939	0.30554	0.38152	0.54136	0.56613	0.16918	0.05277	0.23774
H34 : C34	0.08112	0.36171	0.28535	-0.05038	0.58703	0.04167	-0.33363	-0.15064	0.00295	-0.00505	-0.43930	-0.25860	-0.04552
H35 : C35	1.00000	0.61947	0.57778	0.64535	0.04042	0.24089	0.24332	0.20854	0.18445	0.57202	0.27873	0.07207	0.33607
H36 : C36	0.61947	1.00000	0.74113	-0.51910	-0.06594	-0.21022	-0.25932	0.31399	0.46300	0.55896	0.17124	-0.08621	0.26117
H37 : C37	0.57778	0.74113	1.00000	0.37600	0.17249	0.27037	0.08250	0.27499	0.47691	0.43768	0.07501	-0.17869	0.16392
H38 : C38	0.64535	0.51910	0.37600	1.00000	-0.11834	0.13500	0.39890	0.22591	0.14705	0.36848	0.37958	0.28769	0.46957
H39 : C39	0.04042	0.06594	0.17249	-0.11834	1.00000	0.38068	-0.20351	0.04913	-0.13213	-0.03520	-0.51845	-0.30623	-0.21032





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13

H40 : c40	0.24089	0.21022	0.27037	0.13500	0.30068	1.00000	-0.06999	0.23607	0.20017	0.32234	-0.01465	-0.28381	-0.20140
H41 : c41	0.24332	0.25932	0.08250	0.39890	-0.20351	-0.06999	1.00000	0.34274	0.25239	0.44920	0.64321	0.10220	0.43788
H42 : c42	0.20854	0.31399	0.27499	0.22591	0.04913	0.23607	0.34274	1.00000	0.76466	0.26434	0.23577	0.24575	0.51298
H43 : c43	0.18445	0.46300	0.47691	0.14705	-0.13213	0.20017	0.25239	0.76466	1.00000	0.37552	0.33567	0.00262	0.40229
H44 : c44	0.57202	0.55896	0.43768	0.36848	-0.03520	0.32234	0.44920	0.26434	0.37552	1.00000	0.31086	-0.00448	0.26218
H45 : c45	0.27873	0.17124	0.07501	0.37958	-0.51845	-0.01465	0.64321	0.23577	0.33567	0.31086	1.00000	-0.12324	0.26191
H46 : c46	0.07207	-0.08621	-0.17869	0.28769	-0.30623	-0.28381	0.10220	0.24575	0.00262	-0.00448	-0.12324	1.00000	0.67640
H47 : c47	0.33607	0.26117	0.16392	0.46957	-0.21032	-0.20140	0.43788	0.51298	0.40229	0.26218	0.26191	0.67640	1.00000

EIGENVALUES NOT IN RANGE ZERO TO ONE

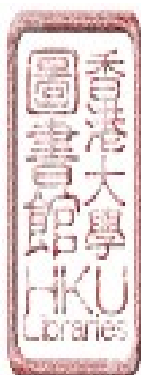


## CONJUNICAL CORRELATION

Commercial Skill ( variables C10-C18 ) : Adaptability ( variables C48-C54 )

## CORRELATION COEFFICIENT MATRIX

VARIABLE	#10	#11	#12	#13	#14	#15	#16	#17	#18	#48	#49	#50	#51	#52
#10 : C10	1.00000	0.40158	0.58199	0.49026	-0.14159	0.29093	0.78283	0.40158	0.01937	0.64830	0.57814	0.60020	0.38355	0.51684
#11 : C11	0.40158	1.00000	0.49834	0.41475	0.15242	0.56402	0.38623	0.36140	0.29535	0.43616	0.38896	0.40380	0.48867	0.58007
#12 : C12	0.58199	0.49834	1.00000	0.33130	-0.12885	0.36578	0.65760	0.71191	3.7E-18	0.35877	0.74653	0.66881	0.03272	0.13187
#13 : C13	0.49026	0.41475	0.33130	1.00000	0.11821	0.32839	0.49019	0.24193	0.14149	0.36206	0.38648	0.39628	0.27169	0.32212
#14 : C14	-0.14159	0.15242	-0.12885	0.11821	1.00000	0.46614	0.06355	-0.01270	0.30265	0.05334	0.17124	0.16904	0.21309	0.14999
#15 : C15	0.29093	0.56402	0.36578	0.32839	0.46614	1.00000	0.43812	0.16225	0.55790	0.41532	0.47068	0.51415	0.51731	0.58797
#16 : C16	0.78283	0.38623	0.65760	0.49019	0.06355	0.43812	1.00000	0.45645	0.08692	0.70777	0.68377	0.74218	0.30663	0.40649
#17 : C17	0.40158	0.36140	0.71191	0.24493	-0.01270	0.16225	0.45645	1.00000	-0.04343	0.35954	0.52562	0.40380	-0.01451	0.03087
#18 : C18	0.01937	0.29535	3.7E-18	0.14149	0.30265	0.55790	0.08692	-0.04343	1.00000	0.27725	0.07808	0.13601	0.49510	0.59133
#48 : C48	0.64830	0.43616	0.35877	0.36206	0.05334	0.41532	0.70777	0.35954	0.27725	1.00000	0.43265	0.49374	0.32510	0.49130
#49 : C49	0.57814	0.38896	0.74653	0.38648	0.17124	0.47068	0.68377	0.52562	0.07808	0.43265	1.00000	0.81477	0.28992	0.21663
#50 : C50	0.60020	0.40380	0.66881	0.39628	0.16904	0.51415	0.74218	0.40380	0.13601	0.49374	0.81477	1.00000	0.35732	0.25060
#51 : C51	0.38355	0.48867	0.03272	0.27169	0.21309	0.51731	0.30663	-0.01451	0.49510	0.32510	0.28992	0.35732	1.00000	0.78792
#52 : C52	0.51684	0.58007	0.13187	0.32212	0.14999	0.58797	0.40649	0.03087	0.59133	0.49130	0.21663	0.25060	0.78792	1.00000
#53 : C53	0.27671	0.60420	0.06868	0.33552	0.43497	0.61242	0.28791	0.07616	0.56145	0.40086	0.29156	0.29547	0.88137	0.73593
#54 : C54	0.27631	0.31653	0.30582	0.33669	0.31827	0.27290	0.40221	0.18590	-0.00311	0.09706	0.47793	0.38940	0.19860	0.05817





VARIABLE	H53	H54
H10 :c10	0.27671	0.27631
H11 :c11	0.60420	0.31653
H12 :c12	0.06868	0.30582
H13 :c13	0.33552	0.33669
H14 :c14	0.43497	0.31827
H15 :c15	0.61242	0.27290
H16 :c16	0.28791	0.40221
H17 :c17	0.07616	0.10520
H18 :c18	0.56145	-0.00311
H48 :c48	0.40086	0.09706
H49 :c49	0.29156	0.47793
H50 :c50	0.29547	0.38940
H51 :c51	0.88137	0.19860
H52 :c52	0.73593	0.05817
H53 :c53	1.00000	0.28111
H54 :c54	0.28111	1.00000

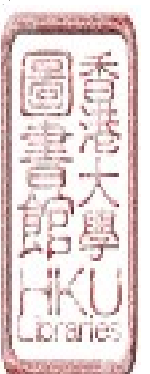
EIGENVALUES REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0	0.92573	0.96215	0.09469	93.83534	63	99.290
1	0.76118	0.87246	0.06316	48.33519	48	54.071
2	0.58283	0.76343	0.26449	23.27441	35	6.478
3	0.24671	0.49670	0.63399	7.97500	24	0.089
4	0.11716	0.34228	0.84163	3.01725	15	0.042
5	0.03580	0.18920	0.95332	0.83662	8	0.092
6	0.01129	0.16625	0.98871	0.19869	3	2.220

## COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	#10	#11	#12	#13	#14	#15	#16	#17	#18
0.96215	0.52458	0.44510	-0.42689	-0.07908	0.01605	0.20977	0.56764	0.02532	0.33092
0.97246	0.20003	0.20664	-0.79892	-0.10544	-0.30412	0.02741	0.67175	0.11054	0.14029
0.76343	-0.13674	0.19235	0.03264	0.07612	0.21583	-0.01043	-0.19181	-0.03696	0.06762
0.49670	-0.44123	0.21134	-0.55746	0.08115	0.16052	-0.28441	0.75077	0.28132	-0.21815
0.34228	-0.01804	0.08739	0.29569	0.07508	0.12971	-0.12476	0.15331	-0.67612	-0.16211
0.18920	-0.56077	-0.11570	-0.02309	-0.10841	-0.22904	0.20365	0.54001	-0.05050	0.14085
0.10625	0.22023	-0.27879	-0.27776	-0.06675	0.04262	0.59983	-0.16128	0.14137	-0.32900

## COEFFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL CORRELATION	#48	#49	#50	#51	#52	#53	#54
0.96215	0.43672	-0.09722	0.38559	-0.10527	0.75635	0.08421	0.24681
0.97246	0.28928	-0.39013	-0.28743	0.70586	-0.03474	-0.42604	0.02326
0.76343	-0.28065	-0.11678	0.09569	-0.54088	0.07040	0.77504	-0.01593
0.49670	0.53759	-0.35856	-0.03710	0.05411	-0.63124	0.22685	0.35805
0.34228	-0.26154	-0.55105	0.50842	0.10989	0.26592	-0.36148	0.39496
0.18920	-0.01119	-0.49522	0.68352	-0.30868	-0.07696	0.31906	-0.29056
0.10625	-0.02280	0.11812	-0.00587	0.79799	-0.56895	-0.12560	-0.09608



## PURCHASERS'

## CANONICAL CORRELATION

## CORRELATION COEFFICIENT MATRIX

Commercial skill ( variables C10-C18 ) : Conflict ( variables C55-C59 ) -

VARIABLE	#10	#11	#12	#13	#14	#15	#16	#17	#18	#55	#56	#57	#58	#59
#10 : c10	1.00000	0.40158	0.58199	0.49026	-0.14159	0.29093	0.78283	0.40158	0.01937	0.37998	0.05291	-0.08515	0.24653	-0.19047
#11 : c11	0.40158	1.00000	0.49834	0.41475	0.15242	0.56402	0.38623	0.36140	0.29535	0.45829	-0.42715	-0.49535	0.08885	-0.38443
#12 : c12	0.58199	0.49834	1.00000	0.33130	-0.12885	0.36578	0.65760	0.71191	3.7E-18	0.44279	-0.22222	-0.20511	2.8E-16	-0.13333
#13 : c13	0.49026	0.41475	0.33130	1.00000	0.11821	0.32839	0.49019	0.24493	0.14149	0.44976	-0.19878	-0.32304	-0.11026	-0.35780
#14 : c14	-0.14159	0.15242	-0.12885	0.11821	1.00000	0.46614	0.06355	-0.01270	0.30265	0.33856	-0.51541	-0.20737	-0.23586	-0.46387
#15 : c15	0.29093	0.56402	0.36578	0.32839	0.46614	1.00000	0.43812	0.16225	0.55790	0.52403	-0.31353	-0.18056	-0.15217	0.43812
#16 : c16	0.78283	0.38623	0.65760	0.49019	0.06355	0.43812	1.00000	0.45645	0.08692	0.53035	-0.16440	-0.37092	0.17782	-0.36168
#17 : c17	0.40158	0.36140	0.71191	0.24493	-0.01270	0.16225	0.45645	1.00000	-0.04343	0.13406	-0.28477	-0.14490	0.01185	-0.21357
#18 : c18	0.01937	0.29535	3.7E-18	0.14149	0.30265	0.55790	0.08692	-0.04343	1.00000	0.30487	-8.2E-17	-0.00417	-0.23464	-0.10575
#55 : c55	0.37998	0.45829	0.44279	0.44976	0.33856	0.52403	0.53035	0.13406	0.30487	1.00000	-0.25302	-0.38025	-0.38421	-0.49339
#56 : c56	0.05291	-0.42715	-0.22222	-0.19878	-0.51541	-0.31353	-0.16440	-0.28477	-8.2E-17	-0.25302	1.00000	0.54697	0.06009	0.66667
#57 : c57	-0.08515	-0.49535	-0.20511	-0.32304	-0.20737	-0.18056	-0.37092	-0.14490	-0.00417	-0.38025	0.54697	1.00000	-0.10240	0.61534
#58 : c58	0.24653	0.08885	2.8E-16	-0.11026	-0.23586	-0.15217	0.17782	0.01185	-0.23464	-0.38421	0.06009	-0.10240	1.00000	0.07211
#59 : c59	-0.19047	-0.38443	-0.13333	-0.35780	-0.46387	-0.21947	-0.36168	-0.21357	-0.10575	-0.49339	0.66667	0.61534	0.07211	1.00000

COEFFICIENTS FOR RIGHT HAND VARIABLES

EIGENVALUES REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT	CANONICAL CORRELATION	#55	#56	#57	#58	#59
0	0.72611	0.85212	0.04917	55.73147	45	86.887	0.85212	0.76853	-0.43328	-0.31814	0.31108	0.15380
1	0.47985	0.69271	0.17952	31.77314	32	52.196	0.69271	0.08517	0.76109	-0.20395	0.46157	-0.39855
2	0.42808	0.65428	0.34513	19.68091	21	45.849	0.65428	-0.75588	0.04155	-0.52574	-0.19678	-0.33436
3	0.27107	0.52064	0.60346	9.34394	12	32.669	0.52064	-0.75588	0.04155	-0.52574	-0.19678	-0.33436
4	0.17213	0.41489	0.82787	3.49471	5	37.581	0.41489	0.07896	-0.07965	-0.56631	-0.02381	0.81618
								0.07366	-0.61340	0.38983	0.62343	0.27869

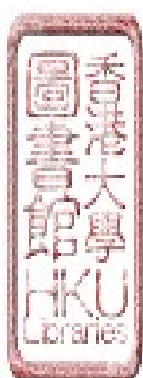
COEFFICIENTS FOR LEFT HAND VARIABLES

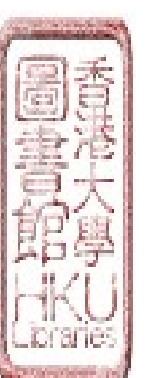
CANONICAL CORRELATION	#10	#11	#12	#13	#14	#15	#16	#17	#18
0.85212	-0.42363	0.66439	0.34976	0.10155	0.42664	-0.19672	0.72974	-0.35964	-0.12904
0.69271	0.29836	0.23712	-0.50483	-0.14915	-0.30133	-0.37615	0.64916	-0.16618	0.12591
0.65428	-0.65244	0.50477	-0.70972	0.07106	-0.01596	-0.37726	0.54399	0.42118	-0.18445
0.52064	-0.59966	0.18312	0.28529	-0.01783	-0.51412	0.22701	0.23443	-0.29476	-0.14845
0.41489	0.47821	0.24135	-0.19150	-0.58032	0.05742	0.35617	-0.25472	0.21726	-0.55634

## CANONICAL CORRELATION

(CORRELATION COEFFICIENT MATRIX) Commercial skill ( variables C10-C18 ) ; Market factors ( variables, C60-C66 )

VARIABLE	H10	H11	H12	H13	H14	H15	H16	H17	H18	H60	H61	H62	H63	H64
H10 : c10	1.00000	0.40158	0.58199	0.49026	-0.14159	0.29093	0.78283	0.40158	0.01937	0.26145	0.03449	0.23192	-0.01761	0.06949
H11 : c11	0.40158	1.00000	0.49834	0.41475	0.15242	0.56402	0.38623	0.36140	0.29535	0.14500	0.21175	0.23939	0.14216	0.18488
H12 : c12	0.58199	0.49834	1.00000	0.33130	-0.12885	0.36578	0.65760	0.71191	3.7E-18	0.19291	0.05885	-0.08674	-7.5E-17	-1.5E-16
H13 : c13	0.49026	0.41475	0.33130	1.00000	0.11821	0.32839	0.49019	0.24493	0.14149	-0.22787	-0.25108	-0.21088	-0.31976	-0.15229
H14 : c14	-0.14159	0.15242	-0.12885	0.11821	1.00000	0.46614	0.06355	-0.01270	0.30265	-0.20221	-0.12075	0.02680	0.15217	-3.0E-16
H15 : c15	0.29093	0.56402	0.36578	0.32839	0.46614	1.00000	0.43812	0.16225	0.55790	0.05409	0.00639	0.02903	-0.01450	-0.15229
H16 : c16	0.78283	0.38623	0.65760	0.49019	0.06355	0.43812	1.00000	0.45645	0.08692	0.21408	-0.01450	-0.13285	0.54826	0.33223
H17 : c17	0.40158	0.36140	0.71191	0.24493	-0.01270	0.16225	0.45645	1.00000	-0.04343	0.08320	-0.01450	-0.14962	-0.24286	-0.14663
H18 : c18	0.01937	0.29535	3.7E-18	0.14149	0.30265	0.55790	0.08692	-0.04343	1.00000	-0.11769	-0.13285	-0.26988	0.18698	0.30513
H60 : c60	0.26145	0.14500	0.19291	-0.22787	-0.20221	0.05409	0.21408	0.08320	-0.11769	1.00000	0.54826	0.46047	0.38523	0.29512
H61 : c61	0.03449	0.21175	0.05885	-0.25108	-0.12075	0.00639	0.02903	-0.01450	-0.13285	0.54826	1.00000	0.30040	0.39666	-0.58150
H62 : c62	0.23192	0.23939	-0.08674	-0.21088	-0.29015	0.06589	1.2E-16	-0.14962	-0.26988	0.46047	0.30040	1.00000	0.33919	0.17605
H63 : c63	-0.01761	0.14216	-7.5E-17	-0.31976	0.02680	0.15217	-3.0E-16	-0.24286	0.18698	0.38523	0.39666	0.33919	1.00000	0.67086
H64 : c64	0.06949	0.18488	-1.5E-16	-0.15229	0.16923	0.33223	-0.02126	-0.14663	0.30513	0.29512	0.58150	0.17605	0.67086	1.00000
H65 : c65	-0.39296	0.17493	-0.40331	-0.18501	0.16550	-0.04669	-0.51718	-0.18685	0.24606	0.19391	0.33853	0.02906	0.19799	0.32986
H66 : c66	-0.24476	0.21760	-0.15910	-0.24632	0.00355	0.03885	-0.33349	-0.24113	0.23296	0.22710	0.43596	0.08837	0.26145	0.35737





VARIABLE	#65	#66
H10 : c10	-0.39296	-0.24476
H11 : c11	0.17493	0.21760
H12 : c12	-0.40331	-0.15910
H13 : c13	0.18501	-0.24632
H14 : c14	0.16550	0.00355
H15 : c15	-0.04669	0.03885
H16 : c16	-0.51718	-0.33349
H17 : c17	-0.18685	-0.24113
H18 : c18	0.24606	0.23296
H60 : c60	0.19391	0.22710
H61 : c61	0.33953	0.43596
H62 : c62	0.02906	0.00837
H63 : c63	0.19799	0.26145
H64 : c64	0.32986	0.35737
H65 : c65	1.00000	0.78853
H66 : c66	0.78853	1.00000

EIGENVALUES PERMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0	0.88696	0.89831	0.01145	78.21688	63	90.625
1	0.74672	0.86413	0.05933	49.43178	48	58.420
2	0.49619	0.70441	0.23423	25.40004	35	11.675
3	0.46125	0.67915	0.46492	13.40289	24	4.099
4	0.08567	0.29269	0.86297	2.57908	15	0.016
5	0.03869	0.19671	0.94382	1.01180	8	0.183
6	0.01819	0.13486	0.98181	0.32119	3	4.401

## COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	#10	#11	#12	#13	#14	#15	#16	#17	#18
0.89831	-0.09447	-0.33780	0.65464	-0.11931	0.01739	-0.07782	0.40278	-0.33686	0.08013
0.86413	-0.47398	-0.53799	0.54518	0.58023	0.52413	-0.61078	-0.10095	0.13087	0.68478
0.70441	0.42211	-0.02108	0.39593	-0.21434	0.12758	0.20208	-0.52258	-0.42850	0.35679
0.67915	0.53186	-0.43852	-0.25898	0.22550	-0.01833	0.51355	-0.30823	0.31374	-0.13688
0.29269	-0.20429	-0.11195	0.40846	0.53267	-0.29260	0.17366	-0.30833	-0.47790	-0.18029
0.19671	-0.23520	-0.08364	-0.35350	-0.00090	0.26577	0.16519	-0.59517	-0.35138	-0.27161
0.13486	-0.35355	0.26418	0.40141	0.08308	0.29220	0.36182	-0.15382	0.02932	-0.43225

## COEFFICIENTS FOR RIGHT HAND VARIABLES

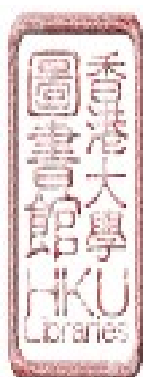
CANONICAL CORRELATION	#60	#61	#62	#63	#64	#65	#66
0.89831	0.31331	-0.03422	-0.32271	0.14261	0.00603	-0.79530	0.37902
0.86413	-0.05799	-0.20036	-0.85496	0.09520	0.06344	0.35384	-0.22087
0.70441	0.03821	-0.54208	0.04736	0.05265	0.61524	-0.22227	0.52130
0.67915	0.16903	-0.37643	0.17534	-0.58237	0.63595	-0.02913	-0.23354
0.29269	-0.46471	-0.07981	0.24493	-0.13496	-0.12315	-0.51813	0.64486
0.19671	-0.54115	0.17185	0.14803	0.55003	-0.05275	0.13935	-0.57530
0.13486	-0.38198	0.71252	-0.12029	-0.38254	0.38502	-0.19009	0.03487

## CANONICAL CORRELATION

## CORRELATION COEFFICIENT MATRIX

Commercial skill ( variables C10-C18 ) # Market activity ( variables C67-C75

VARIABLE	H10	H11	H12	H13	H14	H15	H16	H17	H18	H67	H68	H69	H70	H71
H10 : C10	1.00000	0.40158	0.58199	0.49026	-0.14159	0.29093	0.78283	0.40158	0.01937	0.16578	0.21769	0.54987	0.13847	0.05870
H11 : C11	0.40158	1.00000	0.49834	0.41475	0.15242	0.56402	0.38623	0.36140	0.29535	-0.03718	0.46378	0.41663	0.09316	0.39885
H12 : C12	0.58199	0.49834	1.00000	0.33130	-0.12885	0.36578	0.65760	0.71191	3.7E-18	0.23210	0.11006	0.36436	0.26252	0.08012
H13 : C13	0.49026	0.41475	0.33130	1.00000	0.11821	0.32839	0.49019	0.24493	0.14149	0.03460	0.24486	0.29417	0.00963	0.15804
H14 : C14	-0.14159	0.15242	-0.12885	0.11821	1.00000	0.46614	0.06355	-0.01270	0.30265	-0.20187	0.01964	0.07151	-0.02810	0.05003
H15 : C15	0.29093	0.56402	0.36578	0.32839	0.46614	1.00000	0.43812	0.16225	0.55790	0.13644	0.34440	0.33744	0.08737	0.47246
H16 : C16	0.78283	0.38623	0.65760	0.49019	0.06355	0.43812	1.00000	0.45645	0.08692	0.14309	0.13570	0.57505	0.25894	0.03952
H17 : C17	0.40158	0.36140	0.71191	0.24493	-0.01270	0.16225	0.45645	1.00000	-0.04343	0.33461	0.11120	0.32325	0.29500	0.09083
H18 : C18	0.01937	0.29535	3.7E-18	0.14149	0.30265	0.55790	0.08692	-0.04343	1.00000	-0.09204	0.32901	0.07113	0.15375	0.23464
H67 : C67	0.16578	-0.03718	0.23210	0.03460	-0.20187	0.13644	0.14309	0.33461	-0.09204	1.00000	0.20117	2.9E-16	-0.21935	0.12553
H68 : C68	0.21769	0.46378	0.11006	0.24486	0.01964	0.34440	0.13570	0.11120	0.32901	0.20117	1.00000	0.36646	0.11601	0.13736
H69 : C69	0.54987	0.41663	0.36436	0.29417	0.07151	0.33744	0.57505	0.32325	0.07113	2.9E-16	0.36646	1.00000	0.43970	0.35572
H70 : C70	0.13847	0.09316	0.26252	0.00963	-0.02810	0.08737	0.25894	0.29500	0.15375	-0.21935	0.11601	0.43970	1.00000	-0.06407
H71 : C71	0.05870	0.39885	0.08012	0.15804	0.05003	0.47246	0.03952	0.09083	0.23464	0.12553	0.13736	0.35572	-0.06407	1.00000
H72 : C72	0.45979	0.23346	0.23684	0.08692	-0.45953	0.06426	0.35043	0.00584	0.21313	7.1E-17	0.16693	0.16131	-0.15496	0.19050
H73 : C73	0.51946	0.41885	0.48716	0.26568	-0.36697	0.28393	0.45383	0.34948	0.29060	0.19787	0.39799	0.46424	0.28725	0.08707
H74 : C74	0.10064	0.16550	0.22895	0.00700	-0.10893	0.09939	-0.07528	0.26330	0.17227	-0.07971	0.12211	0.06930	0.58254	0.00847
H75 : C75	0.31748	0.24874	0.38400	0.56368	-0.11744	0.00397	0.27055	0.38933	0.07699	-0.05730	0.15883	0.18266	0.18743	0.04869





VARIABLE	H72	H73	H74	H75
H10 : c10	0.45979	0.51946	0.10064	0.31748
H11 : c11	0.23346	0.41885	0.16550	0.24874
H12 : c12	0.23684	0.48716	0.22895	0.38400
H13 : c13	0.08692	0.26568	0.00700	0.56368
H14 : c14	-0.45953	-0.36697	-0.10893	-0.11744
H15 : c15	0.06426	0.28393	0.09939	0.00397
H16 : c16	0.35043	0.45383	-0.07528	0.27055
H17 : c17	0.00584	0.34948	0.26330	0.38933
H18 : c18	0.21313	0.29060	0.17227	0.07698
H67 : c67	7.1E-17	0.19787	-0.07971	-0.05730
H68 : c68	0.16693	0.39799	0.12211	0.15883
H69 : c69	0.16131	0.46424	0.06930	0.18266
H70 : c70	-0.15496	0.28725	0.58254	0.18743
H71 : c71	0.19050	0.08707	0.00847	0.04869
H72 : c72	1.00000	0.28401	-0.03128	0.17090
H73 : c73	0.28401	1.00000	0.24595	0.39880
H74 : c74	-0.03128	0.24595	1.00000	0.39997
H75 : c75	0.17090	0.39880	0.39997	1.00000

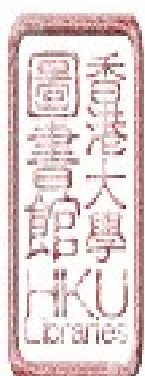
EIGENVALUES REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0	0.90253	0.95002	0.00248	99.01687	81	91.526
1	0.76561	0.87499	0.02541	60.60105	64	40.258
2	0.51410	0.71701	0.10839	36.66321	49	9.671
3	0.43423	0.65896	0.22307	24.75436	36	7.857
4	0.39118	0.62544	0.39428	15.35656	25	6.756
5	0.28260	0.53161	0.64761	7.16879	16	3.013
6	0.08242	0.28710	0.90272	1.68868	9	0.451
7	0.01619	0.12723	0.98381	0.26934	4	0.829
8	3.908E-06	0.00198	1.00000	6.448E-05	1	0.641

## COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	H10	H11	H12	H13	H14	H15	H16	H17	H18
0.95002	-0.15097	-0.14500	0.09908	0.27161	0.78023	-0.17244	-0.39871	-0.06372	-0.44452
0.87499	-0.13836	-0.27961	0.22185	0.08928	0.18962	-0.63275	0.69138	-0.06246	0.03289
0.71701	-0.12602	-0.11876	0.04585	0.80836	-0.08823	0.22737	-0.44897	0.64171	-0.05289
0.65896	-0.32216	-0.69025	0.07977	-0.18741	-0.36820	0.61951	-0.14224	0.51865	-0.11414
0.62544	-0.55048	0.04320	0.23542	0.26098	-0.15310	-0.41663	0.15935	-0.19910	0.41148
0.53161	-0.76591	0.14744	-0.59606	-0.00499	-0.16397	0.35204	0.94104	0.19607	-0.13705
0.28710	-0.03537	-0.30526	-0.44283	0.67045	-0.83014	0.85738	-0.04078	-0.44635	-0.80272
0.12723	0.37277	-0.07020	-1.10302	-0.02290	-0.14975	-0.07612	0.02046	0.67236	0.22427
0.00198	-0.40051	0.77509	-0.33263	-0.21882	-0.25482	-0.33450	0.24732	0.30801	-0.39268

## COEFFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL CORRELATION	H67	H68	H69	H70	H71	H72	H73	H74	H75
0.95002	-0.16002	0.03222	0.20034	-0.37142	-0.11096	-0.63350	-0.58672	0.04660	0.18768
0.87499	0.22244	-0.34471	0.28615	0.32923	-0.49350	0.19540	-0.19957	-0.42086	0.37781
0.71701	0.31187	0.11269	0.00310	-0.00132	0.26611	-0.36118	-0.03850	-0.03134	0.82843
0.65896	0.60768	-0.34840	-0.46805	-0.48076	0.14043	-0.05696	0.04919	0.05010	-0.17676
0.62544	-0.21474	0.15220	-0.72276	0.41958	0.13678	0.07775	0.12228	-0.37029	0.23552
0.53161	0.05115	0.14000	-0.12918	0.59261	0.36184	-0.10385	-0.03095	-0.68354	-0.00365
0.28710	0.28287	-0.27710	-0.12922	-0.70124	0.22070	0.23873	0.09858	-0.42078	0.20565
0.12723	0.35668	0.58019	-0.07425	0.18779	-0.24915	0.29280	-0.58524	-0.04263	0.05702
0.00198	-0.00932	0.23502	-0.08764	-0.25645	-0.36440	-0.47145	-0.67271	-0.16329	-0.19228

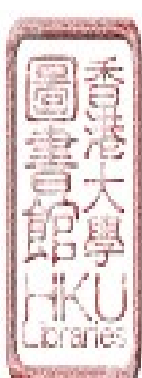


SELLERS'

## CONDITIONAL CORRELATION

Technical skill ( variables C1-C9 ) Market commitment ( variables C19-C24 )  
CORRELATION COEFFICIENT MATRIX

VARIABLE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H19	H20	H21	H22	H23
H1 :C1	1.00000	0.06798	0.33296	0.38782	-0.00122	-0.20910	0.14242	-0.17284	0.29523	0.03636	-0.37131	-0.15190	-0.20344	-0.00669
H2 :C2	0.06798	1.00000	-0.03161	0.57096	0.24476	-0.04477	0.12248	-0.10239	-0.04857	0.08453	0.23956	0.14663	0.10483	0.43118
H3 :C3	0.33296	-0.03161	1.00000	0.08449	0.16438	-0.00421	0.08836	-0.25167	0.03737	-0.00267	-0.07070	-0.11553	0.09532	-0.27612
H4 :C4	0.38782	0.57096	0.08449	1.00000	0.04868	-0.10528	0.32933	-0.06569	-0.10692	0.12498	-0.15603	-0.24901	-0.07948	0.17574
H5 :C5	-0.00122	0.24476	0.16438	0.04868	1.00000	-0.03568	0.17231	-0.22524	0.38099	0.15936	0.00783	0.14509	0.20685	0.18264
H6 :C6	-0.20910	-0.04477	-0.00421	-0.10528	-0.03568	1.00000	-0.29972	-0.09818	-0.10673	-0.19781	-0.10156	-0.16765	0.01010	-0.09922
H7 :C7	0.14242	0.12248	0.08836	0.32933	0.17231	-0.29972	1.00000	-0.13134	0.13070	-0.12570	-0.04797	0.05430	0.08883	0.08883
H8 :C8	-0.17284	-0.10239	-0.25167	-0.06569	-0.22524	-0.09818	-0.13134	1.00000	-0.32050	-0.06232	-0.04527	0.00458	0.20160	0.22739
H9 :C9	0.29523	-0.04857	0.03737	-0.10692	0.38099	-0.10673	-0.01278	-0.32050	1.00000	-0.13137	-0.22751	-0.10266	0.00117	0.02753
H19 :C19	0.03636	0.08453	-0.00267	0.12498	-0.15936	-0.19781	0.13070	-0.06232	-0.13137	1.00000	0.31271	0.41682	-0.11867	0.01837
H20 :C20	-0.37131	0.23956	-0.07070	-0.15603	0.00783	-0.10156	-0.12570	-0.04527	-0.22751	0.31271	1.00000	0.74663	0.74663	0.27083
H21 :C21	-0.15190	0.14663	-0.11553	-0.24901	0.14509	-0.16765	-0.04797	0.00458	-0.10266	0.41682	0.74663	1.00000	0.24467	0.18412
H22 :C22	-0.20344	0.10483	0.09532	-0.07948	0.20685	0.01010	0.05430	0.20160	0.00117	-0.11867	0.14897	0.24467	1.00000	0.50561
H23 :C23	-0.00669	0.43118	-0.27612	0.17574	0.18264	-0.09922	0.08883	0.22739	0.02753	-0.01837	-0.27083	0.18412	0.50561	1.00000
H24 :C24	-0.07222	0.26052	0.15919	0.05530	0.29987	-0.05855	0.40484	-0.15472	0.06116	0.14864	0.13883	0.21864	0.29700	0.29319



variable	H24
H1 : c1	-0.07222
H2 : c2	0.26052
H3 : c3	0.15919
H4 : c4	0.05530
H5 : c5	0.29987
H6 : c6	-0.05855
H7 : c7	0.40484
H8 : c8	-0.15472
H9 : c9	0.06116
H19 : c19	0.14864
H20 : c20	0.13883
H21 : c21	0.21864
H22 : c22	0.29700
H23 : c23	0.29319
H24 : c24	1.00000

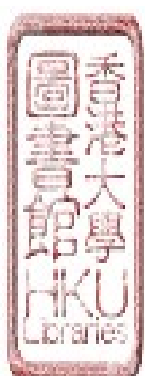
EIGENVALUES REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0	0.52751	0.79215	0.09932	53.11570	54	49.152
1	0.36843	0.60698	0.26665	30.40222	40	13.629
2	0.30654	0.55366	0.42219	19.83283	28	12.952
3	0.19167	0.43781	0.60882	11.41344	18	12.400
4	0.14772	0.38434	0.75318	6.51929	10	23.009
5	0.11628	0.34099	0.88372	2.84305	4	41.558

## COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	H1	H2	H3	H4	H5	H6	H7	H8	H9
0.79215	0.48487	0.11444	-0.40707	-0.14168	0.15254	0.02171	0.01247	0.14034	-0.03932
0.60698	-0.26269	1.23096	-0.05702	-0.93272	0.13915	-0.30091	0.23732	-0.07729	-0.25073
0.55366	0.00113	-0.00611	0.29553	0.11887	0.28024	0.31403	0.78840	0.27619	0.30681
0.43781	0.37101	-0.07976	-0.00900	-0.64262	0.14326	-0.04549	0.13765	-0.23087	-0.21910
0.38434	-0.12384	0.20277	0.30363	-0.41451	-0.06899	0.35328	-0.00881	0.80159	0.53025
0.34099	0.02810	0.41773	-0.05907	-0.25215	-0.68492	0.37054	0.29104	-0.23188	0.49008

## COEFFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL CORRELATION	H19	H20	H21	H22	H23	H24
0.79215	-0.02628	-0.57954	0.52258	-0.32647	0.51142	-0.14907
0.60698	-0.23127	0.64035	0.35989	-0.10382	0.39118	0.49309
0.55366	0.23898	-0.53082	-0.19096	0.25007	0.00521	0.74972
0.43781	-0.16397	-0.44314	0.77173	-0.08908	-0.38936	0.14713
0.38434	-0.56350	-0.26246	0.32509	0.65993	-0.02538	-0.26784
0.34099	-0.69927	0.12380	-0.04907	-0.59352	0.11528	0.35740



SELLERS'

## CANONICAL CORRELATION

(CORRELATION COEFFICIENT MATRIX      Technical skill ( variables C1-C9 ) :      Company commitment ( variables C25-C29 ) )

VARIABLE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H25	H26	H27	H28	H29
H1 : C1	1.00000	0.06798	0.33296	0.38782	-0.00122	-0.20910	0.14242	-0.17284	0.29523	-0.04306	-0.09072	-0.02912	-0.04829	-0.28013
H2 : C2	0.06798	1.00000	-0.03161	0.57096	0.24476	-0.04477	0.12248	-0.10239	-0.04057	0.14183	-0.06946	-0.34593	0.21774	-0.08905
H3 : C3	0.33296	-0.03161	1.00000	0.08449	0.16438	-0.00421	0.08836	-0.25167	0.03737	0.16095	0.15092	0.21028	-0.16991	0.38393
H4 : C4	0.38782	0.57096	0.08449	1.00000	0.04868	-0.10528	0.32933	-0.06569	0.09911	-0.12749	0.30586	-0.09818	-0.10673	-0.15955
H5 : C5	-0.00122	0.24476	0.16438	0.04868	1.00000	-0.03568	0.17231	-0.22524	0.38099	-0.10673	-0.01278	0.33491	-0.04756	-0.12755
H6 : C6	-0.20910	-0.04477	-0.00421	-0.10528	-0.03568	1.00000	-0.29972	-0.09818	-0.10673	-0.01278	0.33491	-0.04756	1.00000	-0.04756
H7 : C7	0.14242	0.12248	0.08836	0.32933	0.17231	-0.29972	1.00000	-0.32050	0.33491	-0.11001	-0.03012	-0.19212	0.05953	0.19862
H8 : C8	-0.17284	-0.10239	-0.25167	-0.06569	-0.22524	-0.09818	-0.13134	1.00000	-0.32050	-0.33491	-0.11001	-0.03012	-0.19212	0.45332
H9 : C9	0.29523	-0.04857	0.03737	-0.10692	0.38099	-0.10673	-0.01278	-0.32050	1.00000	-0.04756	-0.12755	0.05953	0.19862	-0.52562
H25 : C25	-0.04306	0.14183	0.16095	0.38135	0.09911	-0.12749	0.30586	0.33491	-0.04756	1.00000	0.60677	-0.01437	0.26044	-0.18100
H26 : C26	-0.09072	-0.06946	0.15092	0.11796	0.28783	-0.19565	0.50579	0.11001	-0.12755	0.60677	1.00000	0.16053	0.18046	-0.23723
H27 : C27	-0.02912	-0.34593	0.21028	-0.03230	-0.09173	0.15955	0.06594	-0.03012	0.05953	-0.01437	0.16053	1.00000	0.20585	-0.19072
H28 : C28	-0.04829	0.21774	0.12925	0.20337	0.31865	-0.02237	0.38393	-0.19212	0.19862	0.26044	0.18046	0.20585	1.00000	-0.62854
H29 : C29	-0.28013	-0.08905	-0.16991	-0.18364	-0.37026	0.02941	-0.44219	0.45332	-0.52562	-0.18100	-0.23723	-0.19072	-0.62854	1.00000

EIGENVALUES REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0	0.63542	0.79713	0.06256	65.13354	45	97.364
1	0.52686	0.72585	0.17159	41.42190	32	87.703
2	0.47949	0.69245	0.36266	23.83553	21	69.891
3	0.25222	0.50222	0.69675	8.49122	12	25.434
4	0.06824	0.26122	0.93176	1.66092	5	10.621

# COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	H1	H2	H3	H4	H5	H6	H7	H8	H9
0.79713	-0.39507	-0.11370	0.29456	0.41927	-0.18726	-0.04265	-0.23035	0.52961	-0.04593
0.72585	-0.62899	-0.34096	0.49611	0.67777	0.41480	0.03705	0.95596	0.39796	0.37704
0.69245	-0.05565	-0.07765	0.16718	0.36246	-0.33561	0.20389	-0.07463	0.08794	0.57783
0.50222	0.02191	-0.90200	0.12896	0.06806	0.02208	0.13898	0.09234	-0.15682	-0.19471
0.26122	-0.67232	0.18616	0.24446	-0.00612	-0.19635	0.23991	0.01506	-0.30533	0.14681

# COEFFICIENTS FOR RIGHT HAND VARIABLES

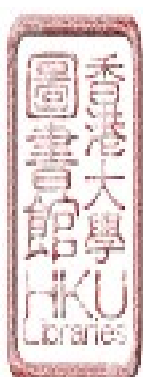
CANONICAL CORRELATION	H25	H26	H27	H28	H29
0.79713	0.62048	-0.21705	0.25414	0.09137	0.70354
0.72585	0.45565	0.69997	0.10627	0.47764	-0.25097
0.69245	0.49225	-0.62711	0.28978	-0.29504	-0.43977
0.50222	-0.36135	0.41236	0.71590	-0.42950	-0.04900
0.26122	-0.26652	-0.16840	0.25170	0.80973	0.42613

## CORRELATION

## CORRELATION COEFFICIENT MATRIX

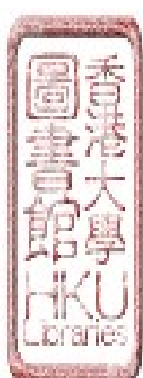
Technical skill ( variables C1-C9 ) ; Distance ( variables C30-C47 )

VARIABLE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H30	H31	H32	H33	H34
H1 :C1	1.00000	0.06798	0.33296	0.38782	-0.00122	-0.20910	0.14242	-0.17284	0.29523	-0.16557	0.07669	0.13209	0.08189	0.31202
H2 :C2	0.06798	1.00000	-0.03161	0.57096	0.24476	-0.04477	0.12248	-0.10239	-0.04857	-0.16952	0.28944	0.22761	-0.03348	0.30229
H3 :C3	0.33296	-0.03161	1.00000	0.08449	0.16438	-0.00421	0.08836	-0.25167	0.03737	0.07698	0.02348	0.03245	0.14320	-0.10456
H4 :C4	0.38782	0.57096	0.08449	1.00000	0.04868	-0.10528	0.32933	-0.06569	0.10692	0.04226	0.25011	0.09277	0.21236	0.28735
H5 :C5	-0.00122	0.24476	0.16438	0.04868	1.00000	-0.03568	0.17231	-0.22524	-0.03568	0.04226	-0.31865	0.24470	-0.00438	-0.00438
H6 :C6	-0.20910	-0.04477	-0.00421	-0.10528	-0.03568	1.00000	-0.29972	-0.09818	-0.10673	-0.06280	0.33432	0.04987	-0.00925	0.06070
H7 :C7	0.14242	0.12248	0.08836	0.32933	0.17231	-0.29972	1.00000	-0.13134	-0.01278	-0.21268	0.47309	-0.19538	0.05945	-0.11818
H8 :C8	-0.17284	-0.10239	-0.25167	-0.06569	-0.22524	-0.09818	-0.13134	1.00000	0.32050	0.02032	-0.20688	-0.08111	0.26066	-0.19872
H9 :C9	0.29523	-0.04857	0.03737	-0.10692	0.38099	-0.10673	-0.01278	-0.32050	1.00000	-0.06280	0.33432	0.04987	-0.00925	0.06070
H30 :C30	-0.16557	-0.16952	0.07698	0.04226	-0.31865	0.19573	-0.21268	0.02032	-0.06280	1.00000	-0.25369	0.05667	0.03197	-0.16206
H31 :C31	0.07669	0.28944	0.02348	0.25011	0.24470	-0.04605	0.47309	-0.20688	0.33432	-0.25369	1.00000	-0.08521	0.26066	0.27453
H32 :C32	0.13209	0.22761	0.03245	0.09277	0.35630	0.09139	-0.19538	-0.08111	0.04987	0.05667	-0.08521	1.00000	0.07019	0.23944
H33 :C33	0.08189	-0.03348	0.14320	0.21236	0.12467	0.03009	0.05945	-0.14034	-0.00925	0.03197	0.26066	0.07019	1.00000	0.11140
H34 :C34	0.31202	0.30229	-0.10456	0.28735	-0.00438	0.09912	-0.11818	-0.19872	0.06070	-0.16206	0.27453	0.23944	0.11140	1.00000
H35 :C35	0.12171	0.17097	0.06836	0.15413	0.24052	0.02277	0.27739	-0.19304	0.22793	-0.09767	0.39792	0.29091	0.30159	0.11102
H36 :C36	0.31986	-0.01787	0.31820	0.23192	0.23799	0.08720	0.24254	-0.28501	0.34037	-0.08497	0.30717	0.17389	0.40934	0.12413
H37 :C37	0.21812	-0.22456	0.44880	-0.06308	0.21961	0.15481	0.21290	-0.16244	-0.04756	-0.00548	0.08127	-0.01204	0.46341	-0.05027





H38 :c38	0.00591	0.08357	0.31616	0.32610	0.30084	-0.12466	0.04736	-0.28510	0.22706	0.06496	0.14263	-0.10844	0.19008	-0.03353
H39 :c39	-0.01651	0.16677	-0.18683	-0.12644	-0.30851	0.29269	-0.13223	0.02830	-0.11372	0.14345	-0.15131	0.03460	-0.59390	0.18521
H40 :c40	0.03517	-0.09364	-0.10940	-0.13895	0.25475	0.08364	0.41685	0.09544	-0.04501	-0.12818	-0.14513	0.23784	-0.03768	0.16928
H41 :c41	-0.07011	0.01787	0.28809	0.22292	-0.08385	0.21375	0.15745	-0.06204	0.00258	0.40618	0.13232	-0.28960	0.22889	-0.20871
H42 :c42	-0.25377	-0.04274	-0.18827	-0.39620	0.08815	-0.01121	-0.07116	0.52672	-0.28931	-0.38893	-0.21431	-0.03386	-0.22884	-0.25098
H43 :c43	0.19188	-0.14628	0.38915	0.20146	-0.10677	-0.11706	0.30889	-0.38139	-0.02513	0.17668	0.04293	-0.37868	0.33007	-0.13632
H44 :c44	0.29066	0.20116	0.17879	0.19324	-0.07952	-0.52056	0.36988	-0.01931	-0.02099	-0.48993	0.44011	-0.28970	0.14621	0.10284
H45 :c45	0.27024	-0.18277	0.29782	0.05173	0.07012	-0.32859	0.64919	-0.21709	0.11442	-0.19784	0.48874	-0.33780	0.12525	-0.12092
H46 :c46	0.02764	0.42727	-0.11894	0.33660	-0.07650	-0.25178	0.22132	0.02256	-0.04458	-0.26401	0.27294	-0.18614	-0.24644	-0.04711
H47 :c47	0.13132	0.16222	-0.01784	0.23692	-0.09336	-0.05541	0.15845	-0.05780	0.06702	-0.15013	0.07374	-0.03084	-0.26013	-0.02898



VARIABLE	H35	H36	H37	H38	H39	H40	H41	H42	H43	H44	H45	H46	H47
H1 :C1	0.12171	0.31986	0.21812	0.00591	-0.01651	0.03517	-0.07011	-0.25377	0.19188	0.29066	0.27024	0.02764	0.13132
H2 :C2	0.17097	-0.01787	-0.22456	0.08357	0.16677	-0.09304	0.01787	-0.04274	-0.14628	0.20116	-0.18277	0.42727	0.16222
H3 :C3	0.06836	0.31820	0.44880	0.31616	-0.18683	-0.10940	0.28809	-0.18827	0.38915	0.17879	0.29782	-0.11894	-0.01784
H4 :C4	0.15413	0.23192	-0.06308	0.32610	-0.12644	-0.13885	0.22292	-0.39620	0.20146	0.19324	0.05173	0.33660	0.23692
H5 :C5	0.24052	0.23799	0.21961	0.30084	-0.30851	0.25475	-0.08385	0.08815	-0.10677	-0.07952	0.07012	-0.07650	-0.09336
H6 :C6	0.02277	0.08720	0.15481	-0.12466	0.29269	0.08364	0.21375	-0.01121	-0.11706	-0.52056	-0.32859	-0.25178	-0.05541
H7 :C7	0.27739	0.24254	0.21290	0.04736	-0.13223	-0.41685	0.15745	-0.07116	0.30889	0.36988	0.64919	0.22132	0.15845
H8 :C8	-0.19304	-0.28501	-0.16244	-0.28510	0.02830	0.09544	-0.06204	0.52672	-0.38139	-0.01931	-0.21709	0.02256	-0.05780
H9 :C9	0.22793	0.34037	-0.04756	0.22706	-0.11372	-0.04501	0.00258	-0.28931	-0.02513	-0.02099	0.11442	-0.04458	0.06702
H30 :C30	-0.09767	-0.08497	-0.00548	0.06496	0.14345	-0.12818	0.40618	-0.38893	0.17668	-0.48993	-0.19784	-0.26401	-0.15013
H31 :C31	0.39792	0.30717	0.08127	0.14263	-0.15131	-0.14513	0.13232	-0.21431	0.04293	0.44011	0.48874	0.27294	0.07374
H32 :C32	0.29091	0.17389	-0.01204	-0.10844	0.03460	0.23784	-0.28960	-0.03386	-0.37868	-0.28970	-0.33780	-0.18614	-0.03084
H33 :C33	0.30159	0.40934	0.46341	0.19008	-0.59390	-0.03768	0.22889	-0.22884	0.33007	0.14621	0.12525	-0.24644	-0.26013
H34 :C34	0.11102	0.12413	-0.05027	-0.03353	0.18521	0.16928	-0.20871	-0.25098	-0.13632	0.10284	-0.12092	-0.04711	-0.02898
H35 :C35	1.00000	0.63281	0.28276	-0.00979	-0.07437	0.06213	-0.00909	0.16679	0.02752	0.14328	-0.06713	0.15692	0.09651
H36 :C36	0.63281	1.00000	0.36222	0.17058	-0.14815	-0.09204	0.13553	-0.10916	0.37557	-0.24097	-0.24354	0.01265	0.03458

H37 : c37	0.28276	0.36222	1.00000	0.10342	-0.39721	0.11430	0.16354	0.03924	0.43079	0.03044	0.26848	-0.42469	-0.27451
H38 : c38	-0.00979	0.17058	0.10342	1.00000	-0.27824	-0.13738	0.48476	-0.47769	0.41391	-0.08298	0.05654	0.30182	0.45167
H39 : c39	-0.07437	-0.14815	-0.39721	-0.27824	1.00000	-0.04675	-0.20513	0.04614	-0.12387	-0.09476	-0.12628	0.26322	0.19838
H40 : c40	0.06213	-0.09204	0.11430	-0.13738	-0.04675	1.00000	-0.50370	0.22672	-0.22447	0.01645	-0.31382	-0.01921	-0.12653
H41 : c41	-0.00909	0.13553	0.16354	0.48476	-0.20513	-0.50370	1.00000	-0.33223	0.42365	-0.26679	0.08742	-0.05791	0.20252
H42 : c42	0.16679	-0.10916	0.03924	-0.47769	0.04614	0.22672	-0.33223	1.00000	-0.41625	0.00756	-0.28319	-0.00883	-0.21113
H43 : c43	0.02752	0.37557	0.43079	0.41391	-0.12387	-0.22447	0.42365	-0.41625	1.00000	0.28003	0.45385	-0.05305	0.04230
H44 : c44	0.14328	0.24097	0.03044	-0.08298	-0.09476	0.01645	-0.26679	0.00756	0.28003	1.00000	0.58157	0.39276	0.00688
H45 : c45	-0.06713	0.24354	0.26848	0.05654	-0.12628	-0.31382	0.08742	-0.28319	0.45385	0.58157	1.00000	0.07549	6.3E-17
H46 : c46	0.15692	0.01265	-0.42469	0.30182	0.26322	-0.01921	-0.05791	-0.00883	-0.05305	0.39276	0.07549	1.00000	0.73968
H47 : c47	0.09651	0.03458	-0.27451	0.45167	0.19838	-0.12653	0.20252	-0.21113	0.04230	0.00688	6.3E-17	0.73968	1.00000

EIGENVALUES REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0	0.98251	0.99122	2.9E-07	256.11981	162	100.000
1	0.95202	0.97571	1.6E-05	187.33797	136	99.767
2	0.93390	0.96079	0.00034	135.71074	112	93.678
3	0.81126	0.90070	0.00516	89.52794	90	50.578
4	0.78387	0.88536	0.02735	61.18268	70	23.514
5	0.55422	0.74446	0.12655	35.14091	52	3.527
6	0.52485	0.72446	0.28389	21.40612	36	2.570
7	0.27249	0.52200	0.59746	8.75606	22	0.549

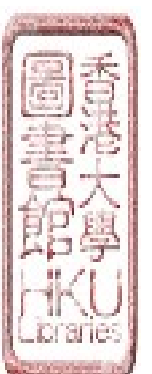
8 0.17876 0.42280 0.82124 3.34792 10 2.799

# COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	#1	#2	#3	#4	#5	#6	#7	#8	#9
0.99122	0.29154	0.65347	-0.04643	-0.46409	-0.35106	0.14896	0.15645	0.14677	-0.28106
0.97571	0.04468	-0.01427	0.08257	0.15331	0.20218	-0.77016	-0.01891	-0.26110	-0.51470
0.96639	0.19766	-0.13651	0.03846	-0.36134	0.54587	-0.10809	-0.33371	0.41621	-0.46476
0.90070	-0.50995	0.04046	0.28780	0.27847	-0.42449	-0.29160	-0.23303	0.27091	0.43014
0.88536	-0.05164	0.10585	-0.25661	0.48300	0.28177	-0.03039	-0.70825	-0.27171	-0.17674
0.74446	0.20808	-0.52053	-0.57477	0.06344	-0.23985	-0.18847	-0.19600	-0.35470	-0.30673
0.72446	0.43138	-0.31052	0.63495	0.27971	-0.23078	0.17626	-0.35366	-0.05169	-0.15496
0.52200	0.59954	0.37487	-0.17952	-0.51725	-0.02940	-0.24083	-0.16316	0.04756	0.33541
0.42280	0.28732	-0.30013	-0.28113	0.58688	0.16514	0.15544	0.15112	0.56332	0.11097

## COEFFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL											
CORRELATION		H30	H31	H32	H33	H34	H35				
0.99122		-0.04674	0.02036	0.24613	0.04174	0.14615	-0.28473				
0.97571		0.07506	-0.72676	0.50427	-0.24089	0.56251	0.42092				
0.96639		0.25237	-0.21474	0.18916	0.35212	-0.06528	-0.25884				
0.90070		0.70269	0.21097	-0.23792	0.00657	-0.18251	-0.19266				
0.88536		-0.37798	-0.12597	0.30332	0.05967	0.20873	-0.14895				
0.74446		0.15092	-0.42601	-0.49200	0.31713	0.31131	0.22787				
0.72446		0.26324	-0.67291	0.00880	-0.02591	0.11958	-0.36226				
0.52200		-0.15258	-0.01128	-0.11205	-0.27849	-0.09063	0.17714				
0.42280		0.41062	-0.04651	-0.04468	0.16993	0.55823	-0.37095				
CANONICAL											
CORRELATION		H36	H37	H38	H39	H40	H41				
0.99122		-0.22601	0.43441	-0.56554	0.21238	-0.25218	0.34376				
0.97571		-0.62013	-0.18558	0.14439	-0.71784	-0.16130	0.09791				
0.96639		-0.10029	-0.08590	0.54420	0.28405	0.37881	0.09239				
0.90070		0.11188	-0.21785	0.45293	-0.02325	-0.20316	-0.23064				
0.88536		0.01410	-0.09723	-0.05378	-0.09552	0.22082	0.22595				
0.74446		-0.21634	-0.47366	-0.49398	-0.28344	0.10585	-0.55829				
0.72446		0.48827	0.67864	0.03576	0.27714	0.17573	0.51239				
0.52200		0.18082	-0.06440	0.23678	0.18749	0.00796	-0.32929				
0.42280		0.54888	-0.19426	-0.44463	-0.61634	0.20320	0.23237				
CANONICAL											
CORRELATION		H42	H43	H44	H45	H46	H47				
0.99122		0.05864	0.09872	0.29274	-0.41067	0.55645	-0.06725				
0.97571		0.36052	0.56231	0.05182	0.77207	0.95178	-0.62056				
0.96639		0.87084	-0.41025	0.40652	0.33648	-0.66287	0.32620				
0.90070		0.26130	-0.34647	0.91752	-0.52510	-0.71244	0.48152				
0.88536		-0.41219	0.23108	-0.39306	-0.43789	0.89325	-0.76277				
0.74446		-0.06948	0.43248	-0.54927	0.37378	-0.09840	0.39485				
0.72446		-0.42259	-0.52377	0.96481	-0.20007	-0.41574	0.38484				
0.52200		-0.36496	-0.57091	0.87573	-0.26606	-0.99959	0.52016				
0.42280		0.47956	-0.29611	-0.28073	0.48611	0.44184	0.43338				

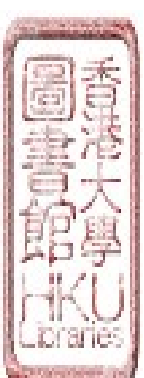


COMMON CORRELATION

Technical skill ( variables C1-C9 ) : Adaptability ( variables C48-C54 )

CORRELATION COEFFICIENT MATRIX

VARIABLE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H48	H49	H50	H51	H52
H1 :C1	1.00000	0.06798	0.33296	0.38782	-0.00122	-0.20910	0.14242	-0.17284	0.29523	0.06853	0.18721	0.14967	-0.12026	-0.06709
H2 :C2	0.06798	1.00000	-0.03161	0.57096	0.24476	-0.04477	0.12248	-0.10239	-0.04857	0.06352	0.02443	0.02250	-0.13922	0.01396
H3 :C3	0.33296	-0.03161	1.00000	0.08449	0.16438	-0.00421	0.08836	-0.25167	0.03737	-0.17414	0.00439	-0.03535	-0.09850	-0.03033
H4 :C4	0.38782	0.57096	0.08449	1.00000	0.04868	-0.10528	0.32933	-0.06569	-0.10692	-0.01749	0.23910	0.15906	-0.00421	0.04347
H5 :C5	-0.00122	0.24476	0.16438	0.04868	1.00000	-0.03568	0.17231	0.38099	0.23910	0.37045	0.15906	0.00169	-0.03571	0.03068
H6 :C6	-0.20910	-0.04477	-0.00421	-0.10528	-0.03568	1.00000	-0.29972	-0.09818	-0.10673	-0.01278	0.28211	0.45071	-0.03133	-0.07923
H7 :C7	0.14242	0.12248	0.08836	0.32933	0.17231	-0.29972	1.00000	1.00000	0.04690	-0.00341	0.21587	0.34893	-0.03133	-0.07923
H8 :C8	-0.17284	-0.10239	-0.25167	-0.06569	-0.22524	-0.09818	-0.13134	1.00000	0.32050	0.04690	-0.00341	0.21587	-0.03133	-0.07923
H9 :C9	0.29523	-0.04857	0.03737	-0.10692	0.38099	-0.10673	-0.01278	-0.32050	1.00000	0.28211	0.21587	0.34893	-0.03133	-0.07923
H48 :C48	0.06853	0.06352	-0.17414	-0.01749	0.23910	-0.20062	0.02896	0.04690	0.28211	1.00000	0.34893	0.32398	-0.01313	-0.02363
H49 :C49	0.18721	0.02443	0.00439	-0.11712	0.37045	-0.38230	0.27303	-0.00341	0.21587	0.34893	1.00000	0.45071	0.04836	0.09424
H50 :C50	0.14967	0.02250	-0.03535	-0.08050	0.15906	-0.46798	0.53506	-0.11451	0.27310	0.32398	0.45071	1.00000	0.17454	0.41898
H51 :C51	-0.12026	-0.13922	-0.09850	0.00498	0.00169	0.04347	0.04555	-0.03133	-0.06605	-0.01313	0.04836	0.17454	1.00000	0.79157
H52 :C52	-0.06709	0.01396	-0.03033	-0.02371	-0.03571	0.03068	0.35955	-0.07923	-0.13693	-0.02363	0.09424	0.41898	0.79157	1.00000
H53 :C53	0.16390	-0.18234	0.28276	-0.12667	0.20351	-0.18253	0.43790	0.08532	0.03243	0.33423	0.40715	0.33483	0.33075	0.48771
H54 :C54	0.11680	0.04004	0.02660	0.06948	0.00802	0.15807	-0.02319	-0.21300	0.04087	0.03432	0.35125	0.05987	0.08657	0.00282



VARIABLE	H53	H54
H1 : c1	0.16390	0.11680
H2 : c2	-0.18234	0.04004
H3 : c3	0.28276	0.02660
H4 : c4	-0.12667	0.06248
H5 : c5	0.20351	0.00802
H6 : c6	-0.18253	0.15807
H7 : c7	0.43790	-0.02319
H8 : c8	0.08532	-0.21300
H9 : c9	0.03243	0.04087
H48 : c48	0.33423	0.03432
H49 : c49	0.40715	0.35125
H50 : c50	0.33483	0.05987
H51 : c51	0.33075	0.08657
H52 : c52	0.48771	0.00282
H53 : c53	1.00000	0.01506
H54 : c54	0.01506	1.00000

EIGENVALUES	LARGEST	CANONICAL	LAMBDA	CHI SQUARE	DF	% POINT
PERCENT	EIGENVALUE	CORRELATION				
0	0.79952	0.89416	0.03975	72.56602	63	80.819
1	0.55837	0.74724	0.19827	36.40729	48	11.028
2	0.36861	0.60713	0.44896	18.01842	35	0.788
3	0.16395	0.40490	0.71107	7.67226	24	0.064
4	0.06936	0.26336	0.85050	3.64336	15	0.131
5	0.05887	0.24262	0.91389	2.02605	8	1.280
6	0.02895	0.17015	0.97105	0.66099	3	11.766

## COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL	#1	#2	#3	#4	#5	#6	#7	#8	#9
CORRELATION									
0.89416	0.32613	0.22005	0.18256	-0.71160	0.09907	-0.23953	0.76346	0.20116	0.00689
0.74724	-0.05783	-0.25611	-0.09476	0.20101	0.25218	-0.31089	-0.26767	0.07719	0.14008
0.60713	-0.03555	-0.41987	0.39290	0.20573	0.09544	0.10446	-0.06196	0.19312	-0.09738
0.40490	-0.30576	-0.27295	0.06154	0.31915	-0.39032	-0.11739	0.13127	-0.20500	0.32226
0.26336	-0.50827	-0.37621	-0.31974	0.13553	0.24825	-0.14904	0.23145	0.01508	-0.49650
0.24262	0.52861	-0.65598	-0.55412	0.18133	0.71896	0.33639	0.11773	-0.70237	-0.44436
0.17015	-0.12505	-0.07050	-0.12735	0.22152	0.02274	0.56543	0.38362	0.56684	0.61141

## COEFFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL	#48	#49	#50	#51	#52	#53	#54
CORRELATION							
0.89416	-0.32010	0.26126	0.55089	-0.40497	0.04898	0.56736	-0.19366
0.74724	0.08282	0.17955	0.17313	0.58779	-0.73808	-0.00763	-0.20150
0.60713	-0.31669	-0.20872	-0.09267	-0.31803	-0.58458	0.63591	0.01700
0.40490	-0.14904	-0.50502	0.60019	0.37340	-0.44642	0.07022	0.13736
0.26336	-0.11444	0.30988	-0.21140	0.51049	0.41404	-0.21941	-0.60500
0.24262	0.04976	0.25178	-0.09996	0.55915	-0.00939	0.08798	0.77695
0.17015	0.75194	-0.50328	-0.12939	-0.10978	0.24750	0.29907	0.04248



COMMON CORRELATION

SELLERS

CORRELATION COEFFICIENT MATRIX Technical Skill ( variables C1-C9 ) : Conflict ( variables C55-C59 )

VARIABLE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H55	H56	H57	H58	H59
H1 :C1	1.00000	0.06798	0.33296	0.38782	-0.00122	-0.20910	0.14242	-0.17284	0.29523	0.02326	-0.21010	0.00243	-0.11193	-0.13056
H2 :C2	0.06798	1.00000	-0.03161	0.57096	0.24476	-0.04477	0.12248	-0.10239	-0.04857	0.14520	-0.11317	-0.41904	-0.20647	-0.13022
H3 :C3	0.33296	-0.03161	1.00000	0.08449	0.16438	-0.00421	0.08836	-0.25167	0.03737	0.23463	0.02355	0.33784	0.14439	0.11773
H4 :C4	0.38782	0.57096	0.08449	1.00000	0.04868	-0.10528	0.32933	-0.06569	-0.10692	0.09315	-0.48171	-0.32787	-0.43440	-0.01363
H5 :C5	-0.00122	0.24476	0.16438	0.04868	1.00000	-0.03568	0.17231	-0.22524	0.38099	0.31940	0.04682	0.04546	0.03697	0.17042
H6 :C6	-0.20910	-0.04477	-0.00421	-0.10528	-0.03568	1.00000	-0.29972	0.09818	-0.10673	-0.04061	-0.10584	0.07100	0.18560	0.03207
H7 :C7	0.14242	0.12248	0.08836	0.32933	0.17231	-0.29972	1.00000	-0.13134	0.36389	-0.09125	0.04430	0.05093	0.08396	0.08396
H8 :C8	-0.17284	-0.10239	-0.25167	-0.06569	-0.22524	-0.09818	-0.13134	1.00000	-0.32050	-0.11114	-0.08137	-0.04430	-0.07840	-0.07840
H9 :C9	0.29523	-0.04857	0.03737	-0.10692	0.38099	-0.10673	-0.01278	-0.32050	1.00000	0.36056	0.16082	-0.06282	0.18259	0.18259
H55 :C55	0.02326	0.14520	0.23463	0.09315	0.31940	-0.04061	0.36389	-0.11114	0.36056	1.00000	0.11539	-0.06282	0.01546	0.11117
H56 :C56	-0.21010	-0.41317	0.02355	-0.48171	0.04682	-0.10584	-0.09125	-0.08137	0.16082	0.11539	1.00000	0.36285	0.39224	0.17941
H57 :C57	0.00243	-0.41904	0.33784	-0.32787	0.04546	0.07100	-0.04091	0.04430	0.00824	-0.06282	0.36285	1.00000	0.49656	0.35752
H58 :C58	-0.11193	-0.20647	0.14439	-0.43440	0.03697	0.18560	0.05093	-0.01090	0.02154	0.01546	0.39224	0.49656	1.00000	0.23926
H59 :C59	-0.13056	-0.13022	0.11773	-0.01363	0.17042	-0.03207	0.08396	-0.07840	-0.18259	0.11117	0.17941	0.35752	0.23926	1.00000

EIGENVALUES FORMED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0	0.53349	0.73041	0.15297	44.12163	45	49.093
1	0.39157	0.62576	0.32790	26.20337	32	24.546
2	0.24704	0.49703	0.53893	14.52677	21	15.436
3	0.18302	0.42781	0.71576	7.85078	12	20.393
4	0.12390	0.35199	0.87610	3.10834	5	31.671

# COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	H1	H2	H3	H4	H5	H6	H7	H8	H9
0.73041	-0.04527	0.36833	0.48502	-0.43455	-0.13773	0.39601	0.62099	0.37584	0.60807
0.62576	-0.11180	-0.68710	0.24163	-0.53773	0.16275	-0.23496	-0.17113	-0.13919	-0.14858
0.49703	-0.47243	-0.61273	0.31813	0.87210	0.38857	-0.33546	-0.09160	-0.04369	0.14416
0.42781	0.45033	-0.18754	0.33404	0.07580	0.19399	0.38903	-0.02123	0.26923	-0.57021
0.35199	-0.14558	0.14522	-0.14987	-0.29819	0.39908	0.09407	0.35518	-0.32195	-0.55062

# COEFFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL CORRELATION	H55	H56	H57	H58	H59
0.73041	0.72325	-0.23391	0.28335	0.43877	-0.38651
0.62576	-0.27485	0.79821	0.53548	0.02235	0.00824
0.49703	0.41374	0.09137	0.35326	-0.72409	0.41397
0.42781	-0.19410	-0.71475	0.65108	0.08133	0.14472
0.35199	0.01891	-0.05979	-0.53563	0.51687	0.66484

COMMON CORRELATION  
CORRELATION COEFFICIENT MATRIX  
Technical skill ( variables C1-C9 ) : Market factors ( variables C60-C66 )

VARIABLE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H60	H61	H62	H63	H64
H1 :C1	1.00000	0.06798	0.33296	0.38782	-0.00122	-0.20910	0.14242	-0.17284	0.29523	-0.14855	-0.13373	0.02347	-0.01634	0.08224
H2 :C2	0.06798	1.00000	-0.03161	0.57096	0.24476	-0.04477	0.12248	-0.10239	-0.04857	-0.37631	-0.38455	-0.44708	-0.14704	-0.06563
H3 :C3	0.33296	-0.03161	1.00000	0.08449	0.16438	-0.00421	0.08836	-0.25167	0.03737	-0.01750	0.26557	0.24421	0.02344	0.18126
H4 :C4	0.38782	0.57096	0.08449	1.00000	0.04868	-0.10528	0.32933	-0.06569	-0.10692	-0.38379	-0.42506	-0.44708	-0.01684	-0.09585
H5 :C5	-0.00122	0.24476	0.16438	0.04868	1.00000	-0.03568	0.17231	-0.22524	0.30099	-0.07533	0.09953	-0.10526	-0.08646	0.31877
H6 :C6	-0.20910	-0.04477	-0.00421	-0.10528	-0.03568	1.00000	-0.29972	-0.09818	-0.10673	0.11031	-0.09204	-0.04511	-0.01634	-0.25879
H7 :C7	0.14242	0.12248	0.08836	0.32933	0.17231	-0.29972	1.00000	-0.13134	-0.01278	-0.06870	-0.04511	-0.22281	0.40560	0.30676
H8 :C8	-0.17284	-0.10239	-0.25167	-0.06569	-0.22524	-0.09818	-0.13134	1.00000	-0.32050	-0.25676	0.08448	0.01068	0.03021	0.03602
H9 :C9	0.29523	-0.04857	0.03737	-0.10692	0.38099	-0.10673	-0.01278	-0.32050	1.00000	-0.14596	0.01068	0.03021	0.03602	0.39317
H60 :C60	-0.14855	-0.37631	-0.01750	-0.38379	-0.07533	0.11031	0.10533	-0.26964	-0.14596	1.00000	-0.42025	0.43752	0.60230	-0.01541
H61 :C61	-0.13373	-0.38455	0.26557	-0.42506	0.09953	0.09204	-0.06870	-0.25676	0.01068	0.42025	1.00000	0.45861	0.48787	0.16837
H62 :C62	0.02347	-0.44708	0.24421	-0.39975	-0.10526	-0.25879	-0.04511	0.08448	0.03021	0.43752	0.45861	1.00000	0.43373	0.35388
H63 :C63	-0.01684	-0.14704	0.02344	-0.38133	-0.08646	0.04310	-0.22281	0.07593	0.03602	0.60230	0.48787	0.43373	1.00000	0.14673
H64 :C64	0.08224	-0.06563	0.18126	-0.09585	0.31877	-0.30676	0.40560	-0.21826	0.39317	-0.01541	0.16837	0.35388	0.14673	1.00000
H65 :C65	0.11641	-0.01105	0.36126	0.12785	-0.28937	-0.25952	0.13370	-0.01641	-0.00778	-0.00442	0.23790	0.18072	0.30193	0.21768
H66 :C66	0.24274	0.07701	0.21088	0.01937	-0.14609	-0.38714	-0.09751	0.40314	-0.21560	0.18422	-0.06945	0.38197	0.31171	0.04299

VARIABLE	#65	#66
#1 :c1	0.11641	0.24274
#2 :c2	-0.01105	0.07701
#3 :c3	0.36126	0.21088
#4 :c4	0.12785	0.01937
#5 :c5	-0.28937	-0.14609
#6 :c6	-0.25952	-0.38714
#7 :c7	0.13370	-0.09751
#8 :c8	-0.01641	0.40314
#9 :c9	-0.00778	-0.21560
#60 :c60	-0.00442	0.18422
#61 :c61	0.23790	-0.06945
#62 :c62	0.18072	0.38197
#63 :c63	0.30193	0.31171
#64 :c64	0.21768	0.04299
#65 :c65	1.00000	0.42673
#66 :c66	0.42673	1.00000

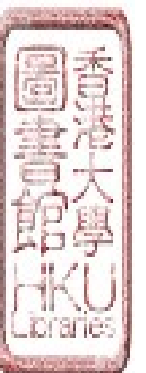
EIGENVALUES REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0	0.70522	0.83977	0.02062	87.33443	03	97.705
1	0.57718	0.75972	0.06995	59.85026	48	88.278
2	0.45776	0.67658	0.16543	40.48707	35	75.886
3	0.40901	0.63954	0.30508	26.71122	24	60.191
4	0.33429	0.57818	0.51622	14.87733	15	53.996
5	0.17736	0.42114	0.77545	5.72207	8	32.167
6	0.05737	0.23951	0.94263	1.32924	3	27.780

COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	H1	H2	H3	H4	H5	H6	H7	H8	H9
0.83977	0.37675	0.31902	-0.18154	-0.18230	0.15766	-0.06348	-0.52667	0.05096	-0.32224
0.75972	-0.12683	0.04918	0.47916	0.30386	-0.58924	-0.39573	-0.08023	0.29689	0.12395
0.67658	0.26532	-0.27103	0.27018	-0.59623	0.40114	-0.31215	-0.03485	0.07795	-0.43778
0.63954	-0.27456	-0.21221	0.18693	0.17215	-0.23396	-0.09636	-0.41353	-0.52959	0.07932
0.57818	-0.05080	-0.32742	-0.12840	0.00569	-0.23448	0.45128	-0.06554	0.22376	-0.22360
0.42114	0.09123	0.24487	-0.10784	-0.45815	-0.34962	-0.01059	0.07703	0.16529	0.49266
0.23951	0.05538	0.75041	0.46769	-0.64737	-0.28045	0.37882	0.33219	0.01508	-0.05288

COEFFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL CORRELATION	H60	H61	H62	H63	H64	H65	H66
0.83977	-0.50204	0.08524	-0.10911	0.47258	-0.31741	-0.44484	0.45479
0.75972	0.00739	-0.40536	0.43265	-0.24730	-0.29844	0.68883	0.15404
0.67658	0.12360	0.61996	0.25835	-0.25257	0.14342	-0.36296	0.56350
0.63954	-0.57973	0.27524	0.42473	0.22359	-0.35591	0.21374	-0.43058
0.57818	0.59830	-0.19400	0.23930	-0.08078	-0.62127	0.16179	-0.35840
0.42114	-0.07314	-0.54849	0.35726	0.66014	0.10453	0.03322	-0.34404
0.23951	0.18989	0.37345	-0.75514	0.33007	0.11340	0.30826	0.19340

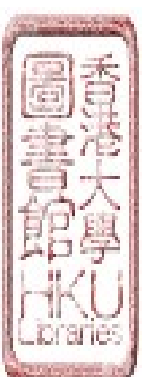


## COEFFICIENT CORRELATION

Technical skill ( variables C1-C9 ) : Market activity ( variables C67-C75 )

## CORRELATION COEFFICIENT MATRIX

VARIABLE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H67	H68	H69	H70	H71
H1 :C1	1.00000	0.06798	0.33296	0.38782	-0.00122	-0.20910	0.14242	-0.17284	0.29523	0.22372	0.38329	-0.13619	0.04400	0.40682
H2 :C2	0.06798	1.00000	-0.03161	0.57096	0.24476	-0.04477	0.12248	-0.10239	-0.04857	0.29421	-0.08817	0.08459	0.24651	0.15019
H3 :C3	0.33296	-0.03161	1.00000	0.08449	0.16438	-0.00421	0.08836	-0.25167	0.05437	0.17464	0.37716	0.00795	0.32086	-0.08275
H4 :C4	0.38782	0.57096	0.08449	1.00000	0.04868	-0.10528	0.32933	-0.06569	-0.10692	0.23792	-0.12878	0.02762	0.24802	0.26343
H5 :C5	-0.00122	0.24476	0.16438	0.04868	1.00000	-0.03568	0.17231	-0.22524	0.30099	0.28059	0.23952	0.24153	0.03887	-0.04251
H6 :C6	-0.20910	-0.04477	-0.00421	-0.10528	-0.03568	1.00000	-0.29972	-0.09818	-0.10673	0.10000	-0.11731	-0.03351	-0.03643	0.30953
H7 :C7	0.14242	0.12248	0.08836	0.32933	0.17231	-0.29972	1.00000	-0.13134	-0.01278	0.24881	0.15660	0.05710	0.16052	0.18727
H8 :C8	-0.17284	-0.10239	-0.25167	-0.06569	-0.22524	-0.09818	-0.13134	1.00000	-0.32050	0.04992	-0.03351	0.18548	0.21057	-0.02632
H9 :C9	0.29523	-0.04857	0.03737	-0.10692	0.38099	-0.10673	-0.01278	-0.32050	1.00000	0.34994	-0.03643	0.10692	-0.04756	0.37455
H67 :C67	0.22372	0.29421	0.17464	0.23792	0.28059	-0.10831	0.24881	0.04992	0.34994	1.00000	0.30953	0.05710	0.16052	0.18727
H68 :C68	0.38329	-0.08817	0.37716	-0.12878	0.23952	-0.11731	0.15660	-0.03351	-0.03643	0.30953	1.00000	0.22162	0.14921	-0.02267
H69 :C69	-0.13619	0.08459	0.00795	0.02762	0.24153	-0.21202	-0.06067	0.18548	0.10692	0.05710	0.22162	1.00000	0.06308	0.12544
H70 :C70	0.04400	0.24651	0.32086	0.24802	0.03887	-0.31569	0.02699	0.21057	-0.04756	0.16052	0.14921	0.06308	1.00000	-0.08463
H71 :C71	0.40682	0.15019	-0.08275	0.26343	-0.04251	-0.34085	0.34326	-0.02632	0.37455	0.18727	-0.02267	0.12544	-0.08463	1.00000
H72 :C72	0.00175	-0.10568	-0.23517	-0.23572	0.25781	0.00709	0.14427	0.26416	-0.08591	0.02768	0.46754	0.19420	-0.18489	0.12366
H73 :C73	0.04171	-0.05248	0.45644	-0.32530	0.40473	-0.14782	0.14136	-0.04571	0.49773	0.18423	0.11595	0.09507	0.15572	0.12591
H74 :C74	0.00952	0.28970	0.22423	0.07289	0.56070	-0.26042	0.31251	-0.06372	0.28211	0.34526	0.21730	0.49198	0.22507	0.15997
H75 :C75	0.04273	0.30825	0.09418	0.26174	0.35481	-0.06927	0.41059	0.09153	0.07236	0.33815	0.28376	0.39261	0.20376	0.49523



VARIABLE	H72	H73	H74	H75
H1 :c1	0.00175	0.04171	0.00952	0.04273
H2 :c2	-0.10568	-0.05248	0.28970	0.30825
H3 :c3	-0.23517	0.45644	0.22423	0.09418
H4 :c4	-0.23572	-0.32530	0.07289	0.26174
H5 :c5	0.25781	0.40473	0.56070	0.35481
H6 :c6	0.00709	-0.14782	-0.26042	-0.06927
H7 :c7	0.14427	0.14136	0.31251	0.41059
H8 :c8	0.26416	-0.04571	-0.06372	0.09153
H9 :c9	-0.08591	0.49773	0.28211	0.07236
H67 :c67	0.02768	0.18423	0.34526	0.33815
H68 :c68	0.46754	0.11595	0.21730	0.28376
H69 :c69	0.19420	0.09507	0.49198	0.39261
H70 :c70	-0.18489	0.15572	0.22507	0.20376
H71 :c71	0.12366	0.12591	0.15997	0.49523
H72 :c72	1.00000	0.04609	0.29330	0.38070
H73 :c73	0.04609	1.00000	0.55457	0.21111
H74 :c74	0.29330	0.55457	1.00000	0.60427
H75 :c75	0.38070	0.21111	0.60427	1.00000

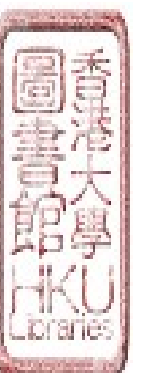
EIGENVALUES REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0	0.85922	0.92694	0.00145	140.46831	81	99.995
1	0.80318	0.89620	0.01033	98.31594	64	99.623
2	0.69242	0.83212	0.05248	63.36857	49	91.860
3	0.41291	0.66551	0.17061	38.01967	36	62.249
4	0.43241	0.65758	0.30626	25.44161	25	56.215
5	0.30159	0.54917	0.53958	13.26478	16	34.669
6	0.18941	0.43522	0.77258	5.54729	9	21.577
7	0.03750	0.19365	0.95312	1.03236	4	9.515
8	0.00975	0.09874	0.99025	0.21063	1	35.373

COEFFICIENTS FOR LEFT HAND VARIABLES

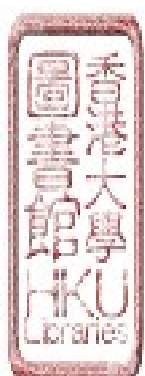
CANONICAL CORRELATION	H1	H2	H3	H4	H5	H6	H7	H8	H9
0.92694	0.34304	-0.33305	-0.58788	-0.01841	0.14816	0.26995	-0.10633	-0.48111	-0.87386
0.89620	-0.57553	-0.04982	-0.12896	0.60719	-0.15092	-0.01441	-0.22174	0.19628	0.23629
0.83212	0.20384	0.01956	-0.15427	0.24002	-0.32684	-0.25663	-0.05506	-0.23164	0.07112
0.66551	0.34058	0.26924	-0.55744	-0.11234	0.31637	0.37614	0.70702	0.21906	0.06965
0.65758	0.25083	-0.11981	-0.30086	-0.27534	-0.06335	-0.04939	-0.05831	0.26175	0.15348
0.54917	0.26189	0.04180	-0.02663	0.00370	0.50178	-0.50875	-0.23128	0.27855	-0.62947
0.43522	-0.19896	-0.04271	-0.26821	-0.05395	0.27702	-0.34314	-0.17682	-0.41109	-0.00230
0.19365	-0.40155	0.14626	0.11141	-0.38014	-0.47623	-0.27401	0.59959	-0.02314	-0.07718
0.09874	-0.20780	-0.92306	0.03589	0.68114	0.25695	-0.08165	-0.10887	-0.00911	0.06556

COEFFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL CORRELATION	H67	H68	H69	H70	H71	H72	H73	H74	H75
0.92694	-0.43803	0.20900	-0.34467	-0.36330	-0.28781	0.03060	-0.61284	0.11073	0.20508
0.89620	0.24866	-0.72646	0.36484	0.23345	-0.18345	0.19671	-0.17442	-0.30416	0.16593
0.83212	-0.05430	0.17686	-0.13369	0.11369	0.61180	-0.25460	-0.42865	0.36200	-0.42552
0.66551	0.34256	-0.26905	-0.39102	-0.26455	0.16030	0.43509	-0.30006	0.34159	0.40702
0.65758	0.13504	-0.18662	0.26561	0.08471	0.27467	0.57890	-0.24137	-0.42293	-0.47066
0.54917	-0.14401	0.22735	0.17583	0.60698	0.05069	0.40054	-0.41744	0.33509	-0.28051
0.43522	-0.18691	-0.09960	0.07033	-0.21818	0.08460	-0.01922	-0.17273	0.79467	-0.48347
0.19365	-0.67381	-0.25825	-0.39432	0.33385	0.20977	0.16819	0.24862	0.05902	0.27342
0.09874	-0.31503	0.21904	0.51687	-0.28141	0.12968	-0.28517	0.10812	-0.37572	0.50540





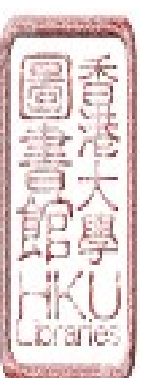


SELLERS'

CONJUNCTION CORRELATION  
CORRELATION COEFFICIENT MATRIX

Commercial skill ( variables C10-C18 ) ; Market commitment ( variables C19-C24 )

VARIABLE	H10	H11	H12	H13	H14	H15	H16	H17	H18	H19	H20	H21	H22	H23
H10 : C10	1.00000	0.53397	0.53915	0.36845	-0.14340	-0.19461	-0.11973	0.23282	0.58918	0.38831	0.27469	0.44816	0.51945	0.48674
H11 : C11	0.53397	1.00000	0.35775	0.12886	-0.21128	-0.52313	-0.32185	0.13674	0.56609	-0.02294	-0.07911	0.16665	0.59995	0.24018
H12 : C12	0.53915	0.35775	1.00000	0.40287	-0.12623	0.02018	-0.33361	0.43072	0.62107	0.35748	0.27107	0.40140	0.28945	0.24295
H13 : C13	0.36845	0.12886	0.40287	1.00000	-0.04448	0.14737	-0.48656	0.11511	0.36553	0.23493	-0.00297	0.21434	0.28410	-0.02254
H14 : C14	-0.14340	-0.21128	-0.12623	-0.04448	1.00000	0.51749	0.15582	0.04489	-0.19454	-0.21181	0.11870	0.15080	-0.35189	-0.17738
H15 : C15	-0.19461	-0.52313	0.02018	0.14737	0.51749	1.00000	0.14668	0.27087	-0.24332	-0.03611	0.12481	0.06853	-0.30927	-0.17738
H16 : C16	-0.11973	-0.32185	-0.33361	-0.48656	0.15582	0.14668	1.00000	-0.37473	-0.20675	-0.25317	0.17139	-0.08205	0.01837	0.24332
H17 : C17	0.23282	0.13674	0.43072	0.11511	0.04489	0.27087	-0.37473	1.00000	0.26469	0.45816	0.30448	0.37811	-0.08205	-0.10949
H18 : C18	0.58918	0.56609	0.62107	0.36553	-0.19454	-0.24332	-0.20675	0.26469	1.00000	0.36455	-0.03644	0.11807	0.28068	0.29554
H19 : C19	0.38831	-0.02294	0.35748	0.23493	-0.21181	-0.03611	-0.25317	0.45816	0.36455	1.00000	0.31271	0.41682	-0.11867	0.01837
H20 : C20	0.27469	-0.07911	0.27107	-0.00297	0.11870	0.12481	0.17139	0.30448	-0.03644	0.31271	1.00000	0.74663	0.14897	0.27083
H21 : C21	0.44816	0.16665	0.40140	0.21434	0.15080	0.06853	-0.16346	0.37811	0.11807	0.41682	0.74663	1.00000	0.24467	0.18412
H22 : C22	0.51945	0.59995	0.28945	0.28410	-0.35189	-0.30927	-0.04802	-0.08205	0.28068	-0.11867	0.14897	0.24467	1.00000	0.50561
H23 : C23	0.48674	0.24018	0.24295	-0.02254	-0.13369	-0.17738	0.24332	-0.10949	0.29554	0.01837	0.27083	0.18412	0.50561	1.00000
H24 : C24	0.51343	0.39433	0.55362	0.21282	-0.25243	-0.16140	0.07594	0.19688	0.59788	0.14864	0.13883	0.21864	0.29700	0.29319



VARIABLE		H24
H10 : c10	0.51343	
H11 : c11	0.39433	
H12 : c12	0.55362	
H13 : c13	0.21282	
H14 : c14	-0.25243	
H15 : c15	-0.16140	
H16 : c16	0.07594	
H17 : c17	0.19688	
H18 : c18	0.59788	
H19 : c19	0.14864	
H20 : c20	0.13883	
H21 : c21	0.21864	
H22 : c22	0.29700	
H23 : c23	0.29319	
H24 : c24	1.00000	

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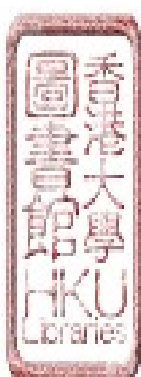
EIGENVALUES REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0	0.80915	0.89953	0.02045	89.46488	54	99.828
1	0.58745	0.76645	0.10715	51.37013	40	89.260
2	0.39204	0.62613	0.25974	31.00596	28	68.318
3	0.36503	0.60418	0.42723	19.55998	18	64.187
4	0.22097	0.48059	0.67283	9.11390	10	47.867
5	0.12509	0.35368	0.87491	3.07360	4	45.442

# COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	#10	#11	#12	#13	#14	#15	#16	#17	#18
0.89953	0.32514	0.31849	0.25768	0.32838	-0.43390	-0.05796	0.46081	0.14505	0.06764
0.76645	-0.32161	1.12861	-0.07460	0.32730	-0.15490	0.35777	0.04195	-0.42942	-0.54333
0.62613	-0.14431	-0.32592	-0.70448	-0.23574	-0.48484	0.29271	-0.69622	-0.33553	1.02420
0.60418	-0.30762	0.07487	0.11484	-0.09879	-0.18310	0.07449	0.54518	-0.19425	0.23813
0.48059	0.46305	-0.11456	-0.04410	-0.46834	0.25524	0.17369	-0.38812	-0.49267	0.26249
0.35368	-0.68691	0.30717	0.32773	0.07582	0.33200	0.08076	0.05346	0.03189	0.44133

# COEFFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL CORRELATION	#19	#20	#21	#22	#23	#24
0.89953	0.45751	0.01056	-0.16987	0.66221	0.04655	0.56659
0.76645	-0.49605	-0.35716	0.21010	0.67789	-0.29445	-0.18972
0.62613	0.61040	-0.67151	-0.40102	0.10985	-0.00337	-0.06003
0.60418	-0.23699	0.48718	-0.75838	-0.12297	0.21940	0.26096
0.48059	-0.15224	-0.53205	0.50503	-0.30165	0.58392	-0.08204
0.35368	-0.32975	-0.39109	0.44041	-0.36468	-0.24525	0.59263



## CANONICAL CORRELATION

SELLERS'

## CORRELATION COEFFICIENT MATRIX

Commercial skill ( variables C10-C18 ) : Company commitment ( variables C25-C29 )

VARIABLE	#10	#11	#12	#13	#14	#15	#16	#17	#18	#25	#26	#27	#28	#29
#10 : c10	1.00000	0.53397	0.53915	0.36845	-0.14340	-0.19461	-0.11973	0.23282	0.58918	0.29016	0.49647	-0.25985	0.31877	-0.35244
#11 : c11	0.53397	1.00000	0.35775	0.12886	-0.21128	-0.52313	-0.32185	0.13674	0.56609	0.36801	0.29159	-0.12062	0.44822	-0.57218
#12 : c12	0.53915	0.35775	1.00000	0.40287	-0.12623	0.02018	-0.33361	0.43072	0.62107	0.01025	0.04686	-0.36509	0.23041	-0.32000
#13 : c13	0.36845	0.12886	0.40287	1.00000	-0.04448	0.14737	-0.48656	0.11511	0.36553	0.21333	0.14123	-0.12428	0.46754	-0.15440
#14 : c14	-0.14340	-0.21128	-0.12623	-0.04448	1.00000	0.51749	0.15582	0.04489	-0.19454	-0.37464	-0.22884	0.07897	-0.31043	0.06692
#15 : c15	-0.19461	-0.52313	0.02018	0.14737	0.51749	1.00000	0.14668	0.27087	-0.24332	-0.15900	-0.01530	0.15260	-0.32375	0.21618
#16 : c16	-0.11973	-0.32185	-0.33361	-0.48656	0.15582	0.14668	1.00000	-0.37473	-0.20675	-0.18701	-0.24116	-0.01689	-0.49322	0.31996
#17 : c17	0.23282	0.13674	0.43072	0.11511	0.04489	0.27087	-0.37473	1.00000	0.26469	-0.19012	0.25197	0.11771	0.23037	-0.40929
#18 : c18	0.58918	0.56609	0.62107	0.36553	-0.19454	-0.24332	-0.20675	0.26469	1.00000	0.25961	0.08856	-0.17457	0.36168	-0.51858
#25 : c25	0.29016	0.36801	0.01025	0.21333	-0.37464	-0.15900	-0.18701	-0.19012	0.25961	1.00000	0.60677	-0.01437	0.26044	-0.18100
#26 : c26	0.49647	0.29159	0.04686	0.14123	-0.22884	-0.01530	-0.24116	0.25197	0.08856	0.60677	1.00000	0.16053	0.18046	-0.23723
#27 : c27	-0.25985	-0.12062	-0.36509	-0.12428	0.07897	0.15260	-0.01689	0.11771	-0.17457	-0.01437	0.16053	1.00000	0.20585	-0.19072
#28 : c28	0.31877	0.44822	0.23041	0.46754	-0.31043	-0.32375	-0.49322	0.23037	0.36168	0.26044	0.18046	0.20585	1.00000	-0.62854
#29 : c29	-0.35244	-0.57218	-0.32000	-0.15440	0.06692	0.21618	0.31996	-0.40929	-0.51858	-0.18100	-0.23723	-0.19072	-0.62854	1.00000

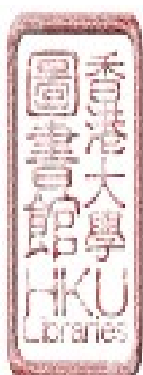
EIGENVALUES REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0	0.72622	0.85218	0.03433	79.23573	45	99.877
1	0.53017	0.72813	0.12539	48.79332	32	97.097
2	0.45907	0.67755	0.26689	31.04156	21	92.703
3	0.36484	0.60402	0.49340	16.60142	12	83.478
4	0.22319	0.47243	0.77681	5.93513	5	68.742

# COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	#10	#11	#12	#13	#14	#15	#16	#17	#18
0.85218	0.58859	0.15058	-0.17418	0.22614	-0.19672	-0.09079	-0.18782	0.30299	-0.30710
0.72813	-0.23059	0.32942	-0.15992	0.08200	-0.35125	0.36691	-0.17643	-0.57109	0.42278
0.67755	0.53497	-0.24617	-0.39124	-0.03850	-0.42849	0.44304	-0.24789	-0.29203	-0.41535
0.60402	0.31001	0.37596	-0.52047	-0.66923	-0.15631	0.78767	-0.26269	-0.07348	0.40060
0.47243	-0.65997	0.12248	-0.87711	0.55395	0.01760	-0.24979	-0.02530	0.73247	0.26032

# COEFFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL CORRELATION	#25	#26	#27	#28	#29
0.85218	-0.27391	0.70836	-0.31450	0.56877	0.02824
0.72813	0.83518	-0.52999	0.01938	0.13958	0.04154
0.67755	0.06989	0.40412	0.23326	0.17704	0.86374
0.60402	0.26894	0.19546	0.31286	-0.70271	-0.54570
0.47243	-0.12229	-0.21019	0.82255	0.50250	0.10853

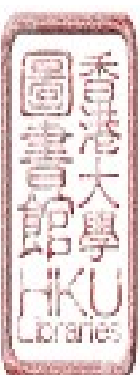


SELLERS'

## CANONICAL CORRELATION

CORRELATION COEFFICIENT MATRIX Commercial skill ( variables C10-C18 ) : Distance ( variables C30-C47 )

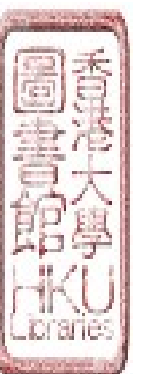
VARIABLE	#10	#11	#12	#13	#14	#15	#16	#17	#18	#30	#31	#32	#33	#34
#10 : c10	1.00000	0.53397	0.53915	0.36845	-0.14340	-0.19461	-0.11973	0.23282	0.58918	-0.47079	0.46844	0.00478	-0.05589	-0.13489
#11 : c11	0.53397	1.00000	0.35775	0.12886	-0.21128	-0.52313	-0.32185	0.13674	0.56609	-0.44822	0.49005	-0.04410	-0.00238	-0.11281
#12 : c12	0.53915	0.35775	1.00000	0.40287	-0.12623	0.02018	-0.33361	0.43072	0.62107	-0.40605	0.23328	-0.07739	0.01435	-0.25164
#13 : c13	0.36845	0.12886	0.40287	1.00000	-0.04448	0.14737	-0.48656	0.11511	0.36553	-0.25749	0.18413	-0.05289	0.08580	-0.11389
#14 : c14	-0.14340	-0.21128	-0.12623	-0.04448	1.00000	0.51749	0.15582	0.04489	-0.19454	0.17029	-0.13898	-0.11615	-0.41787	0.16211
#15 : c15	-0.19461	-0.52313	0.02018	0.14737	0.51749	1.00000	0.14668	0.27087	-0.24332	0.14453	-0.17455	-0.28015	-0.28304	-0.09894
#16 : c16	-0.11973	-0.32185	-0.33361	-0.48656	0.15582	0.14668	1.00000	-0.37473	-0.20675	0.21216	-0.27475	-0.06900	-0.33292	-0.01330
#17 : c17	0.23282	0.13674	0.43072	0.11511	0.04489	0.27087	-0.37473	1.00000	0.26469	-0.37611	0.35423	-0.22132	0.13989	-0.15230
#18 : c18	0.58918	0.56609	0.62107	0.36553	-0.19454	-0.24332	-0.20675	0.26469	1.00000	-0.47233	0.31938	-0.18224	0.02712	-0.20507
#30 : c30	-0.47079	-0.44822	-0.40605	-0.25749	0.17029	0.14453	0.21216	-0.37611	-0.47233	1.00000	-0.25369	0.05667	0.03197	-0.16206
#31 : c31	0.46844	0.49005	0.23328	0.18413	-0.13898	-0.17455	-0.27475	0.35423	0.31938	-0.25369	1.00000	-0.08521	0.26066	0.27453
#32 : c32	0.00478	-0.04410	-0.07739	-0.05289	-0.11615	-0.28015	-0.06900	-0.22132	-0.18224	0.05667	-0.08521	1.00000	0.07019	0.23944
#33 : c33	-0.05589	-0.00238	0.01435	0.08580	-0.41787	-0.28304	-0.33292	0.13989	0.02712	0.03197	0.26066	0.07019	1.00000	0.11140



#34 : c34	-0.13489	-0.11281	-0.25164	-0.11389	0.16211	-0.09894	-0.01330	-0.15230	-0.20507	-0.16206	0.27453	0.23944	0.11140	1.00000
#35 : c35	0.34609	0.45495	0.20248	0.16553	-0.22292	-0.56230	-0.26086	0.01276	0.13240	-0.09767	0.39792	0.29091	0.30159	0.11102
#36 : c36	0.16098	0.52856	-0.00930	-0.22799	-0.38090	-0.79705	-0.10714	-0.21027	0.16403	-0.08497	0.30717	0.17389	0.40934	0.12413
#37 : c37	0.04259	0.30463	0.13737	0.15632	-0.12106	-0.28871	-0.55317	0.00766	0.05941	-0.00548	0.08127	-0.01204	0.46341	-0.05027
#38 : c38	0.01682	0.11195	-0.13818	-0.30598	-0.46170	-0.23352	0.20730	-0.19483	0.03400	0.06496	0.14263	-0.10844	0.19008	-0.03353
#39 : c39	-0.04695	-0.01442	0.01205	-0.21841	0.57327	0.19434	0.42593	-0.17705	-0.16555	0.14345	-0.15131	0.03460	-0.59390	0.18521
#40 : c40	-0.24448	-0.07511	-0.13181	-0.10595	-0.12020	-0.08908	-0.19394	0.07990	-0.24911	-0.12818	-0.14513	0.23784	-0.03768	0.16928
#41 : c41	-0.06501	-0.01997	-0.08679	-0.11677	-0.32097	-0.20608	0.09295	-0.18074	0.03154	0.40618	0.13232	-0.28960	0.22889	-0.20871
#42 : c42	0.32290	0.16605	0.07353	0.27933	0.05177	0.00883	-0.05399	0.10498	-0.02997	-0.38893	-0.21431	-0.03386	-0.22884	-0.25098
#43 : c43	-0.06469	0.12745	0.10614	-0.18847	-0.11754	-0.15251	-0.13103	-0.03775	0.15830	0.17668	0.04293	-0.37868	0.33007	-0.13632
#44 : c44	0.42928	0.31494	0.47621	0.26337	-0.16735	-0.08057	-0.31508	0.23187	0.46632	-0.48993	0.44011	-0.28970	0.14621	0.10284
#45 : c45	0.38421	0.36886	0.51787	0.06636	-0.05903	0.07549	-0.28413	0.41437	0.46606	-0.19784	0.48874	-0.33780	0.12525	-0.12092
#46 : c46	0.42663	0.16671	0.24789	-0.06722	-0.08970	0.00294	0.36808	-0.04843	0.24332	-0.26401	0.27294	-0.18614	-0.24644	-0.04711
#47 : c47	0.21483	0.21215	0.18911	-0.07421	-0.14775	-0.11658	0.30261	-0.20841	0.28045	-0.15013	0.07374	-0.03084	-0.26013	-0.02898

VARIABLE	H35	H36	H37	H38	H39	H40	H41	H42	H43	H44	H45	H46	H47
H10 :c10	0.34609	0.16098	0.04259	0.01682	-0.04695	-0.24448	-0.06501	0.32290	-0.06469	0.42928	0.38421	0.42663	0.21483
H11 :c11	0.45495	0.52856	0.30463	0.11195	-0.01442	-0.07511	-0.01997	0.16605	0.12745	0.31494	0.36886	0.16671	0.21215
H12 :c12	0.20248	-0.00930	0.13737	-0.13818	0.01205	-0.13181	-0.08679	0.07353	0.10614	0.47621	0.51787	0.24789	0.18911
H13 :c13	0.16553	-0.22799	0.15632	-0.30598	-0.21841	-0.10595	-0.11677	0.27933	-0.18847	0.26337	0.06636	-0.06722	-0.07421
H14 :c14	-0.22292	-0.38090	-0.12106	-0.46170	0.57327	-0.12020	-0.32097	0.05177	-0.11754	-0.16735	-0.05903	-0.08970	-0.14775
H15 :c15	-0.56230	-0.79705	-0.28871	-0.23352	0.19434	-0.08908	-0.20608	0.00883	-0.15251	-0.08057	0.07549	0.00294	-0.11658
H16 :c16	-0.26086	-0.10714	-0.55317	0.20730	0.42593	-0.19394	0.09295	-0.05399	-0.13103	-0.31508	-0.28413	0.36808	0.30261
H17 :c17	0.01276	-0.21027	0.00766	-0.19483	-0.17705	0.07990	-0.18074	0.10498	-0.03775	0.23187	0.41437	-0.04843	-0.20841
H18 :c18	0.13240	0.16403	0.05941	0.03400	-0.16555	-0.24911	0.03154	-0.02997	0.15830	0.46632	0.46606	0.24332	0.28045
H30 :c30	-0.09767	-0.08497	-0.00548	0.06496	0.14345	-0.12818	0.40618	-0.38893	0.17668	-0.48993	-0.19784	-0.26401	-0.15013
H31 :c31	0.39792	0.30717	0.08127	0.14263	-0.15131	-0.14513	0.13232	-0.21431	0.04293	0.44011	0.48874	0.27294	0.07374
H32 :c32	0.29091	0.17389	-0.01204	-0.10844	0.03460	0.23784	-0.28960	-0.03386	-0.37868	-0.28970	-0.33780	-0.18614	-0.03084
H33 :c33	0.30159	0.40934	0.46341	0.19008	-0.59390	-0.03768	0.22889	-0.22884	0.33007	0.14621	0.12525	-0.24644	-0.26013





H34 : c34	0.11102	0.12413	-0.05027	-0.03353	0.18521	0.16928	-0.20871	-0.25098	-0.13632	0.10284	-0.12092	-0.04711	-0.02898
H35 : c35	1.00000	0.63281	0.28276	-0.00979	-0.07437	0.06213	-0.00909	0.16679	0.02752	0.14328	-0.06713	0.15692	0.09651
H36 : c36	0.63281	1.00000	0.36222	0.17058	-0.14815	-0.09204	0.13553	-0.10916	0.37557	0.24097	0.24354	0.01265	0.03458
H37 : c37	0.28276	0.36222	1.00000	0.10342	-0.39721	0.11430	0.16354	0.03924	0.43079	0.03044	0.26848	-0.42469	-0.27451
H38 : c38	-0.00979	0.17058	0.10342	1.00000	-0.27824	-0.13738	0.48476	-0.47769	0.41391	-0.08298	0.05654	0.30182	0.45167
H39 : c39	-0.07437	-0.14815	-0.39721	-0.27824	1.00000	-0.04675	-0.20513	0.04614	-0.12387	-0.09476	-0.12628	0.26322	0.19838
H40 : c40	0.06213	-0.09204	0.11430	-0.13738	-0.04675	1.00000	-0.50370	0.22672	-0.22447	0.01645	-0.31382	-0.01921	-0.12653
H41 : c41	-0.00909	0.13553	0.16354	0.48476	-0.20513	-0.50370	1.00000	-0.33223	0.42365	-0.26679	0.08742	-0.05791	0.20252
H42 : c42	0.16679	-0.10916	0.03924	-0.47769	0.04614	0.22672	-0.33223	1.00000	-0.41625	0.00756	-0.28319	-0.00883	-0.21113
H43 : c43	0.02752	0.37557	0.43079	0.41391	-0.12387	-0.22447	0.42365	-0.41625	1.00000	0.28003	0.45385	-0.05305	0.04230
H44 : c44	0.14328	0.24097	0.03044	-0.08298	-0.09476	0.01645	-0.26679	0.00756	0.28003	1.00000	0.58157	0.39276	0.00688
H45 : c45	-0.06713	0.24354	0.26848	0.05654	-0.12628	-0.31382	0.08742	-0.28319	0.45385	0.58157	1.00000	0.07549	6.3E-17
H46 : c46	0.15692	0.01265	-0.42469	0.30182	0.26322	-0.01921	-0.05791	-0.00883	-0.05305	0.39276	0.07549	1.00000	0.73968
H47 : c47	0.09651	0.03458	-0.27451	0.45167	0.19838	-0.12653	0.20252	-0.21113	0.04230	0.00688	6.3E-17	0.73968	1.00000

ETIGENVALUES REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0	0.97759	0.98873	5.8E-07	244.09220	162	99.997
1	0.95711	0.97832	2.6E-05	179.52550	136	99.266
2	0.86480	0.92995	0.00060	125.99073	112	82.706
3	0.84102	0.91707	0.00447	91.97383	90	57.757
4	0.72568	0.85187	0.02812	60.71105	70	22.192
5	0.59928	0.77413	0.10251	38.72204	52	8.596
6	0.47928	0.69230	0.25582	23.17560	36	4.850
7	0.37601	0.61319	0.49129	12.08241	22	4.435

8 0.21268 0.46117 0.78732 4.06496 10 5.563

# COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	#10	#11	#12	#13	#14	#15	#16	#17	#18
0.98873	0.49658	-0.13976	0.19258	-0.01515	0.23178	0.77035	-0.01849	0.22139	-0.00708
0.97832	0.36712	-0.63318	-0.06316	-0.46232	-0.15251	0.21954	-0.19306	-0.35770	0.09953
0.92995	-0.05759	-0.47464	0.09118	-0.12388	-0.68735	0.03424	-0.21689	0.36254	0.30926
0.91707	0.61836	0.36784	-0.09661	-0.20066	-0.32908	0.13209	0.39631	0.14949	-0.35718
0.85187	-0.47697	0.19609	-0.24521	0.18061	-0.02194	-0.06850	-0.52691	-0.59858	-0.01414
0.77413	-0.35054	-0.03727	0.74979	-0.34196	0.20264	-0.19289	0.24851	-0.12350	0.20328
0.69230	0.14092	-0.29302	0.26614	0.10001	0.27519	-0.61204	0.03585	0.32078	-0.50886
0.61319	0.13714	0.13997	-0.13533	-0.67080	0.02915	0.33126	-0.60427	-0.10021	0.08684
0.46117	-0.24890	0.43195	0.41820	0.08259	-0.28843	0.34497	0.07132	-0.16921	-0.57779



Canonical Correlation Commercial Skill ( variables C10-C18 ) : Adaptability ( variables C48-C54 )

Correlation Coefficient Matrix

Variable	H10	H11	H12	H13	H14	H15	H16	H17	H18	H48	H49	H50	H51	H52
H10 : C10	1.00000	0.53397	0.53915	0.36845	-0.14340	-0.19461	-0.11973	0.23282	0.58918	0.36269	0.46211	0.42560	0.08780	0.26415
H11 : C11	0.53397	1.00000	0.35775	0.12886	-0.21128	-0.52313	-0.32185	0.13674	0.56609	0.26609	0.43321	0.42027	-0.09405	0.01127
H12 : C12	0.53915	0.35775	1.00000	0.40287	-0.12623	0.02018	-0.33361	0.43072	0.62107	0.33772	0.36813	0.43511	0.12457	0.22418
H13 : C13	0.36845	0.12886	0.40287	1.00000	-0.04448	0.14737	-0.48656	0.11511	0.36553	0.16455	0.17997	-0.03850	0.21709	0.22304
H14 : C14	-0.14340	-0.21128	-0.12623	-0.04448	1.00000	0.51749	0.15582	0.04489	-0.19454	-0.29609	-0.34247	-0.05138	-0.28257	0.01804
H15 : C15	-0.19461	-0.52313	0.02018	0.14737	0.51749	1.00000	0.14668	0.27087	-0.24332	-0.06807	-0.40056	0.01593	-0.01816	0.14609
H16 : C16	-0.11973	-0.32185	-0.33361	-0.48656	0.15582	0.14668	1.00000	-0.37473	-0.20675	-0.08006	-0.32833	-0.09742	-0.15378	-0.16460
H17 : C17	0.23282	0.13674	0.43072	0.11511	0.04489	0.27087	-0.37473	1.00000	0.26469	0.11547	0.23453	0.26472	0.19603	0.28372
H18 : C18	0.58918	0.56609	0.62107	0.36553	-0.19454	-0.24332	-0.20675	0.26469	1.00000	0.23114	0.28687	0.36507	0.20067	0.23972
H48 : C48	0.36269	0.26609	0.33772	0.16455	-0.29609	-0.06807	-0.08006	0.11547	0.23114	1.00000	0.34893	0.32398	-0.01313	-0.02363
H49 : C49	0.46211	0.43321	0.36813	0.17997	-0.34247	-0.40056	-0.32833	0.23453	0.28687	0.34893	1.00000	0.45071	0.04836	0.09424
H50 : C50	0.42560	0.42027	0.43511	-0.03850	-0.05138	0.01593	-0.09742	0.26472	0.36507	0.32398	0.45071	1.00000	0.17454	0.41898
H51 : C51	0.08780	-0.09405	0.12457	-0.21709	-0.28257	-0.01816	-0.15378	0.19603	0.20067	-0.01313	0.04836	-0.17454	1.00000	0.79157
H52 : C52	0.26415	0.01127	0.22418	0.22304	0.01804	0.14609	-0.16460	0.28372	0.23972	-0.02363	0.09424	0.41898	0.79157	1.00000
H53 : C53	0.53357	0.42318	0.41767	0.39871	-0.23556	-0.12152	-0.38008	0.25367	0.49453	0.33423	0.40715	0.33483	0.33075	0.48771
H54 : C54	-0.00823	0.14125	0.06765	-0.02655	-0.34920	-0.55442	0.02436	-0.21052	-0.03729	0.03432	0.35125	0.05987	0.08657	0.00282

## COEFFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL CORRELATION		#30	#31	#32	#33	#34	#35
0.98873	-0.09320	0.00101	0.12697	0.09502	0.18905	0.36664	
0.97832	0.27659	-0.55697	0.37035	-0.11867	0.55383	-0.19091	
0.92995	-0.49510	-0.57330	0.15100	0.37705	-0.15032	0.51601	
0.91707	0.00101	0.12692	0.21779	0.03786	0.08640	-0.06836	
0.85187	-0.24990	0.11615	-0.48192	0.30160	-0.14686	0.00551	
0.77413	-0.58160	-0.66802	-0.00957	0.03742	-0.20268	0.28287	
0.69230	-0.26176	-0.31818	0.15813	0.10051	0.19177	0.47747	
0.61319	0.06633	0.21761	0.11063	-0.24882	0.16571	-0.21208	
0.46117	0.38209	-0.13857	-0.05377	0.35070	-0.21225	0.12997	

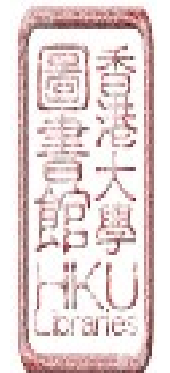
  

CANONICAL CORRELATION		#36	#37	#38	#39	#40	#41
0.98873	-1.20086	-0.06804	-0.29259	-0.12070	-0.33601	-0.34858	
0.97832	-0.07851	-0.11355	-0.09089	-0.45594	-0.02705	0.28767	
0.92995	-0.41206	-0.55918	0.07451	-0.25950	0.55850	0.72966	
0.91707	0.26910	-0.34442	0.54014	0.05078	0.02066	0.04478	
0.85187	0.13863	-0.52878	0.07647	0.20294	0.28300	-0.17583	
0.77413	0.09905	0.02584	-0.27021	0.43809	0.15427	0.37720	
0.69230	-0.17479	-0.04254	-0.23871	0.08909	0.18392	0.32379	
0.61319	0.11413	0.08213	-0.00510	-0.16117	0.22470	-0.18463	
0.46117	-0.24281	0.07914	0.64536	0.57378	0.27179	-0.01556	

CANONICAL CORRELATION		#42	#43	#44	#45	#46	#47
0.98873	0.22735	0.48009	-0.64104	0.83748	0.77916	-0.41645	
0.97832	0.14517	0.26491	-0.32179	0.33113	1.06321	-0.61772	
0.92995	-0.26234	-0.18749	0.15947	0.71023	-0.07449	-0.22225	
0.91707	0.69737	0.03925	-0.47764	0.56647	0.56236	-0.36493	
0.85187	-0.18255	0.00852	-0.63869	0.07685	-0.17909	-0.13500	
0.77413	-0.72297	-0.09254	-0.18485	0.37670	-0.42880	-0.24163	
0.69230	-0.10292	0.08227	-0.44137	0.32906	0.58756	-0.66670	
0.61319	0.06236	0.43384	-0.40405	0.34014	0.17169	-0.21134	
0.46117	0.31100	-0.49741	0.45673	0.25670	-0.67021	0.39815	

VARIABLE	H53	H54
H10 : c10	0.53357	-0.00823
H11 : c11	0.42318	0.14125
H12 : c12	0.41767	0.06765
H13 : c13	0.39871	-0.02655
H14 : c14	-0.23556	-0.34920
H15 : c15	-0.12152	-0.55442
H16 : c16	-0.38008	0.02436
H17 : c17	0.25367	-0.21052
H18 : c18	0.49453	-0.03729
H48 : c48	0.33423	0.03432
H49 : c49	0.40715	0.35125
H50 : c50	0.33483	0.05987
H51 : c51	0.33075	0.08657
H52 : c52	0.48771	0.00282
H53 : c53	1.00000	0.01506
H54 : c54	0.01506	1.00000



EIGENVALUES REMOVED		LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0		0.70772	0.84126	0.04503	69.76148	63	73.924
1		0.58143	0.76252	0.15405	42.08550	48	26.721
2		0.37990	0.61636	0.36804	22.48995	35	5.043
3		0.26156	0.51143	0.59353	11.73769	24	1.730
4		0.10357	0.32183	0.80376	4.91523	15	0.718
5		0.07934	0.28167	0.89663	2.45514	8	3.621
6		0.02611	0.16157	0.97389	0.59518	3	10.247

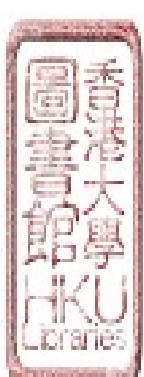
COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	H10	H11	H12	H13	H14	H15	H16	H17	H18
0.84126	-0.42595	-0.35611	0.17053	0.63284	-0.11666	-1.07679	0.43155	0.27955	-0.38727
0.76252	0.37328	0.21825	0.17208	0.03603	-0.45127	-0.02691	-0.18029	0.08685	0.01357
0.61636	0.24380	-0.67579	-0.64481	0.31401	-0.08372	0.03896	-0.31421	0.33028	0.42607
0.51143	-0.25167	0.06507	-0.04218	-0.11543	-0.37961	0.36036	0.04032	-0.12756	0.30966
0.32183	-0.23396	0.20852	-0.36679	-0.01061	0.18785	-0.03499	-0.35644	-0.24992	0.43133
0.28167	0.03217	0.24966	-0.08248	0.56347	-0.04711	0.23934	0.28428	-0.38163	-0.19608
0.16157	0.27305	0.61523	-0.51040	-0.07503	-0.50643	0.55104	-0.27053	0.00164	-0.72008

COEFFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL CORRELATION	H48	H49	H50	H51	H52	H53
0.84126	0.03638	0.22108	-0.52045	0.47663	-0.32200	-0.15192
0.76252	0.13714	-0.38579	0.23154	0.42391	-0.49974	0.58908
0.61636	-0.00441	0.33498	-0.64397	0.34015	0.34097	0.01841
0.51143	0.04554	-0.32494	0.28320	0.60067	-0.66203	0.10923
0.32183	-0.53690	-0.11737	0.07155	0.07755	-0.56043	0.61051
0.28167	0.44721	-0.45321	-0.35099	-0.43892	0.33023	0.35404
0.16157	0.26500	0.50410	-0.28844	0.04364	-0.53960	-0.17327

CANONICAL CORRELATION	H54
0.84126	0.57008
0.76252	0.04797
0.61636	-0.49069
0.51143	-0.03333
0.32183	0.00529
0.28167	0.21063
0.16157	-0.51900



SELLERS'

Commercial skill ( variables C10-C18 ) : Conflict ( variables C55-C59 )

CORRELATION COEFFICIENT MATRIX

VARIABLE	H10	H11	H12	H13	H14	H15	H16	H17	H18	H55	H56	H57	H58	H59
H10 :C10	1.00000	0.53397	0.53915	0.36845	-0.14340	-0.19461	-0.11973	0.23282	0.58918	0.53925	0.03038	-0.10031	0.01808	0.15187
H11 :C11	0.53397	1.00000	0.35775	0.12886	-0.21128	-0.52313	-0.32185	0.13674	0.56609	0.60171	0.04148	0.01860	0.09167	0.00648
H12 :C12	0.53915	0.35775	1.00000	0.40287	-0.12623	0.02018	-0.33361	0.43072	0.62107	0.38790	0.15338	0.05328	-0.03343	0.16247
H13 :C13	0.36845	0.12886	0.40287	1.00000	-0.04448	0.14737	-0.48656	0.11511	0.36553	0.24953	0.17022	-0.00239	0.10995	0.36917
H14 :C14	-0.14340	-0.21128	-0.12623	-0.04448	1.00000	0.51749	0.15582	0.04489	-0.19454	-0.29701	-0.06223	0.09566	0.21562	-0.15038
H15 :C15	-0.19461	-0.52313	0.02018	0.14737	0.51749	1.00000	0.14668	0.27087	-0.24332	-0.33984	0.23608	0.10058	0.21888	0.22104
H16 :C16	-0.11973	-0.32185	-0.33361	-0.48656	0.15582	0.14668	1.00000	-0.37473	-0.20675	-0.19563	-0.01248	-0.02046	-0.13641	-0.12687
H17 :C17	0.23282	0.13674	0.43072	0.11511	0.04489	0.27087	-0.37473	1.00000	0.26469	0.22922	0.37534	-0.06300	-0.00347	0.16312
H18 :C18	0.58918	0.56609	0.62107	0.36553	-0.19454	-0.24332	-0.20675	0.26469	1.00000	0.42703	0.18833	0.10070	-0.11758	0.22244
H55 :C55	0.53925	0.60171	0.38790	0.24953	-0.29701	-0.33984	-0.19563	0.22922	0.42703	1.00000	0.11539	-0.06282	0.01546	0.11117
H56 :C56	0.03038	0.04148	0.15338	0.17022	-0.06223	0.23608	-0.01248	0.37534	0.18833	0.11539	1.00000	0.36285	0.39224	0.17941
H57 :C57	-0.10031	0.01860	0.05328	-0.00239	0.09566	0.10058	-0.02046	-0.06300	0.10070	-0.06282	0.36285	1.00000	0.49656	0.35752
H58 :C58	0.01808	0.09167	-0.03343	0.10995	0.21562	0.21888	-0.13641	-0.00347	-0.11758	0.01546	0.39224	0.49656	1.00000	0.23926
H59 :C59	0.15187	0.00648	0.16247	0.36917	-0.15038	0.22104	-0.12687	0.16312	0.22244	0.11117	0.17941	0.35752	0.23926	1.00000

EIGENVALUES REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0	0.62028	0.79264	0.12424	49.00962	45	68.458
1	0.44564	0.66756	0.33424	25.75367	32	22.560
2	0.26781	0.51750	0.60293	11.09005	21	5.827
3	0.10296	0.32088	0.82345	4.56487	12	2.904
4	0.08203	0.28641	0.91797	2.01141	5	15.244

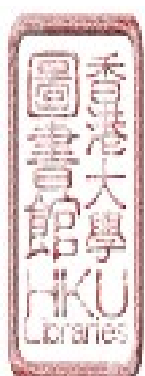
COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	#10	#11	#12	#13	#14	#15	#16	#17	#18
0.79264	-0.10414	0.26135	-0.12847	0.60625	-0.49358	0.05887	0.56054	0.69547	0.14029
0.66756	0.41172	0.56017	0.22067	-0.05453	0.18026	-0.29908	-0.10248	-0.17155	-0.49108
0.51750	0.34217	0.35925	-0.31752	0.20382	-0.08234	0.69460	-0.28392	-0.13054	-0.42120
0.32088	-0.05005	-0.02663	0.09438	-0.24646	-0.19692	0.68151	-0.57632	-0.93219	0.85592
0.28641	-0.84904	1.01287	0.25654	-0.18961	0.32154	0.47486	0.21667	0.20045	0.14971

COEFFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL CORRELATION	#55	#56	#57	#58	#59
0.79264	0.41472	0.63489	-0.29806	-0.34064	0.46909
0.66756	0.75783	-0.45232	0.04290	0.35421	-0.30624
0.51750	-0.14942	-0.05022	-0.51758	0.76656	0.34591
0.32088	0.11791	-0.43091	0.73795	-0.14584	0.48433
0.28641	0.08184	0.54459	0.56707	0.24372	-0.56193





Commercial skill ( variables C10-C18 ) : Market factors ( variables C60-C66 )

COMMUTICAL CORRELATION

CORRELATION COEFFICIENT MATRIX

VARIABLE	H10	H11	H12	H13	H14	H15	H16	H17	H18	H60	H61	H62	H63	H64
H10 : C10	1.00000	0.53397	0.53915	0.36845	-0.14340	-0.19461	-0.11973	0.23282	0.58918	0.07739	-0.15785	-0.09879	-0.12599	0.36214
H11 : C11	0.53397	1.00000	0.35775	0.12886	-0.21128	-0.52313	-0.32185	0.13674	0.56609	-0.02229	-0.16808	-0.04306	-0.15869	0.45615
H12 : C12	0.53915	0.35775	1.00000	0.40287	-0.12623	0.02018	-0.33361	0.43072	0.62107	0.05712	-0.01658	-0.05964	-0.00776	0.12113
H13 : C13	0.36845	0.12886	0.40287	1.00000	-0.04448	0.14737	-0.48656	0.11511	0.36553	0.11138	-0.02231	0.00553	0.04352	0.07434
H14 : C14	-0.14340	-0.21128	-0.12623	-0.04448	1.00000	0.51749	0.15582	0.04489	-0.19454	0.08719	0.20945	0.08368	0.32210	0.05977
H15 : C15	-0.19461	-0.52313	0.02018	0.14737	0.51749	1.00000	0.14668	0.27087	-0.24332	0.18246	0.06485	0.15737	-0.01382	-0.05367
H16 : C16	-0.11973	-0.32185	-0.33361	-0.48656	0.15582	0.14668	1.00000	-0.37473	-0.20675	-0.00715	-0.02653	-0.01382	-0.08944	-0.21731
H17 : C17	0.23282	0.13674	0.43072	0.11511	0.04489	0.27087	-0.37473	1.00000	0.26469	0.25348	0.10490	0.17149	0.17392	0.14581
H18 : C18	0.58918	0.56609	0.62107	0.36553	-0.19454	-0.24332	-0.20675	0.26469	1.00000	0.10795	0.07659	-0.03239	-0.01467	-0.29118
H60 : C60	0.07739	-0.02229	0.05712	0.11138	0.08719	0.18246	-0.00715	0.25348	0.10795	1.00000	0.42025	0.43752	0.60230	-0.01541
H61 : C61	-0.15785	-0.16808	-0.01658	-0.02231	0.20945	0.06485	-0.02653	0.10490	0.07659	0.42025	1.00000	0.45861	0.48787	0.16837
H62 : C62	-0.09879	-0.04306	-0.05964	0.00553	0.08368	0.15737	-0.01382	-0.17149	-0.03239	0.43752	0.45861	1.00000	0.43373	0.35388
H63 : C63	-0.12599	-0.15869	-0.00776	0.04352	0.32210	0.19407	-0.08944	0.17392	-0.01467	0.60230	0.48787	0.43373	1.00000	0.14673
H64 : C64	0.36214	0.45615	0.12113	0.07434	0.05977	-0.05367	-0.21731	0.14581	0.29118	-0.01541	0.16837	0.35388	0.14673	1.00000
H65 : C65	0.06098	-0.09534	0.15767	-0.20763	0.17935	0.19683	0.26896	-0.06994	-0.06869	-0.00442	0.23790	0.18072	0.30193	0.21768
H66 : C66	0.20235	-0.09843	-0.05195	-0.06990	0.18516	0.25798	0.07150	-0.13902	-0.13200	0.18422	-0.06945	0.38197	0.31171	0.04299

VARIABLE	#65	#66
#10 :c10	0.06098	0.20235
#11 :c11	-0.09534	-0.09843
#12 :c12	0.15767	-0.05195
#13 :c13	-0.20763	-0.06990
#14 :c14	0.17935	0.18516
#15 :c15	0.19683	0.25798
#16 :c16	0.26896	0.07150
#17 :c17	-0.06994	-0.13902
#19 :c18	0.06869	-0.13200
#60 :c60	-0.00442	0.18422
#61 :c61	0.23790	-0.06945
#62 :c62	0.18072	0.38197
#63 :c63	0.30193	0.31171
#64 :c64	0.21768	0.04299
#65 :c65	1.00000	0.42673
#66 :c66	0.42673	1.00000

LEFT HAND VALUES REMOVED	LARGEST EIGENVALUE	CANONICAL CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0	0.71215	0.84389	0.05821	63.98408	63	55.827
1	0.50330	0.70944	0.20221	35.96482	48	10.034
2	0.32077	0.56637	0.40711	20.21996	35	2.171
3	0.24767	0.49767	0.59938	11.51697	24	1.518
4	0.12526	0.35392	0.79670	5.11379	15	0.888
5	0.05965	0.24423	0.91078	2.10269	8	2.230
6	0.03145	0.17733	0.96855	0.71888	3	13.124

# COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	#10	#11	#12	#13	#14	#15	#16	#17	#18
0.84389	-0.74632	-0.32376	0.35707	0.31505	0.12741	-0.53808	0.32415	0.17425	0.03576
0.70944	0.06332	0.11391	0.40477	-0.38056	-0.35269	0.60351	0.02365	-0.70262	-0.09635
0.56637	0.34857	-0.47652	-0.15954	-0.29245	0.31757	-0.01001	-0.60269	-0.34419	0.00757
0.49767	0.33098	-0.57338	0.23617	-0.36393	0.35372	-0.10388	0.22830	0.25863	0.32776
0.35392	0.52331	-0.46279	-0.17659	0.45361	-0.40761	-0.29179	0.41567	-0.44029	-0.69493
0.24423	-0.32966	0.34407	-0.25238	0.42076	-0.13181	0.94019	0.08434	0.12347	0.05392
0.17733	0.09226	-0.44064	-0.63659	-0.15001	-0.31639	0.21022	-0.20952	-0.14441	0.91251

# COEFFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL CORRELATION	#60	#61	#62	#63	#64	#65
0.84389	-0.32153	0.03839	0.30635	0.36364	-0.59659	0.14948
0.70944	-0.06749	-0.32453	0.59954	-0.38973	-0.34315	0.51030
0.56637	-0.54528	0.37855	-0.03006	0.30766	-0.10417	-0.36399
0.49767	0.36647	0.37036	-0.60642	-0.07542	-0.02173	0.56061
0.35392	0.41183	0.00434	-0.44117	-0.35370	-0.43248	-0.32311
0.24423	0.56078	-0.48483	0.50927	0.39469	-0.15840	-0.02025
0.17733	0.24802	0.65628	0.15063	-0.66576	-0.01162	-0.15249

CANONICAL CORRELATION	#66
0.84389	-0.53926
0.70944	-0.02511
0.56637	0.56611
0.49767	0.20087
0.35392	0.46819
0.24423	-0.09914

## Commercial skill ( variables C10-C18 ) : Market factors ( variables C60-C66 )

## CONDITIONAL CORRELATION

## CORRELATION COEFFICIENT MATRIX

VARIABLE	#10	#11	#12	#13	#14	#15	#16	#17	#18	#60	#61	#62	#63	#64
#10 : c10	1.00000	0.53397	0.53915	0.36845	-0.14340	-0.19461	-0.11973	0.23282	0.58918	0.07739	-0.15785	-0.09879	-0.12599	0.36214
#11 : c11	0.53397	1.00000	0.35775	0.12886	-0.21128	-0.52313	-0.32185	0.13674	0.56609	-0.02229	-0.16808	-0.04306	-0.15869	0.45615
#12 : c12	0.53915	0.35775	1.00000	0.40287	-0.12623	0.02018	-0.33361	0.43072	0.62107	0.05712	-0.01658	-0.05964	-0.00776	0.12113
#13 : c13	0.36845	0.12886	0.40287	1.00000	-0.04448	0.14737	-0.48656	0.11511	0.36553	0.11138	-0.02231	0.00553	0.04352	0.07434
#14 : c14	-0.14340	-0.21128	-0.12623	-0.04448	1.00000	0.51749	0.15582	0.04489	0.08719	0.20945	0.08368	0.32210	0.05977	0.15582
#15 : c15	-0.19461	-0.52313	0.02018	0.14737	0.51749	1.00000	0.14668	0.27087	-0.24332	0.18246	0.06485	0.15737	0.19407	-0.05367
#16 : c16	-0.11973	-0.32185	-0.33361	-0.48656	0.15582	0.14668	1.00000	-0.37473	-0.20675	-0.00715	-0.02653	-0.01382	-0.08944	-0.21731
#17 : c17	0.23282	0.13674	0.43072	0.11511	0.04489	0.27087	-0.37473	1.00000	0.26469	0.25348	0.10490	0.17392	0.14581	0.14581
#18 : c18	0.58918	0.56609	0.62107	0.36553	-0.19454	-0.24332	-0.20675	0.26469	1.00000	0.10795	0.07659	-0.03239	-0.01467	0.29118
#60 : c60	0.07739	-0.02229	0.05712	0.11138	0.08719	0.18246	-0.00715	0.25348	0.10795	1.00000	0.42025	0.43752	0.60230	-0.01541
#61 : c61	-0.15785	-0.16808	-0.01658	-0.02231	0.20945	0.06485	-0.02653	0.10490	0.07659	0.42025	1.00000	0.45861	0.48787	0.16837
#62 : c62	-0.09879	-0.04306	-0.05964	0.00553	0.08368	0.15737	-0.01382	-0.17149	-0.03239	0.43752	0.45861	1.00000	0.43373	0.35388
#63 : c63	-0.12599	-0.15869	-0.00776	0.04352	0.32210	0.19407	-0.08944	0.17392	-0.01467	0.60230	0.48787	0.43373	1.00000	0.14673
#64 : c64	0.36214	0.45615	0.12113	0.07434	0.05977	-0.05367	-0.21731	0.14581	0.29118	-0.01541	0.16837	0.35388	0.14673	1.00000
#65 : c65	0.06098	-0.09534	0.15767	-0.20763	0.17935	0.19683	0.26896	-0.06994	0.06869	-0.00442	0.23790	0.18072	0.30193	0.21768
#66 : c66	0.20235	-0.09843	-0.05195	-0.06990	0.18516	0.25798	0.07150	-0.13902	-0.13200	0.18422	-0.06945	0.30197	0.31171	0.04299

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VARIABLE	H72	H73	H74	H75
H10 : c10	0.23625	0.20410	0.34172	0.48599
H11 : c11	0.13179	0.41731	0.23387	0.27995
H12 : c12	0.27581	0.05736	0.04691	0.28074
H13 : c13	0.37109	-0.07050	-0.08181	0.16787
H14 : c14	-0.16812	-0.06780	-0.46368	-0.52269
H15 : c15	0.07231	-0.25794	-0.43075	-0.38195
H16 : c16	-0.24275	-0.16113	-0.08006	-0.09985
H17 : c17	0.43509	0.19037	0.05514	-5.6E-16
H18 : c18	0.25942	0.23285	0.19043	0.41266
H67 : c67	0.02768	0.18423	0.34526	0.33815
H68 : c68	0.46754	0.11595	0.21730	0.28376
H69 : c69	0.19420	0.09507	0.49198	0.39261
H70 : c70	-0.18489	0.15572	0.22507	0.20376
H71 : c71	0.12366	0.12591	0.15997	0.49523
H72 : c72	1.00000	0.04609	0.29330	0.38070
H73 : c73	0.04609	1.00000	0.55457	0.21111
H74 : c74	0.29330	0.55457	1.00000	0.60427
H75 : c75	0.38070	0.21111	0.60427	1.00000

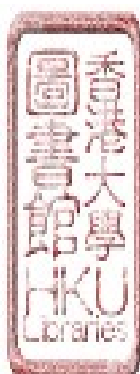
REMOVED	EIGENVALUE	CORRELATION	LAMBDA	CHI SQUARE	DF	% POINT
0	0.71878	0.84781	0.01931	84.86855	81	63.737
1	0.62486	0.79048	0.06865	57.59327	64	29.914
2	0.44297	0.66556	0.18299	36.51339	49	9.359
3	0.35426	0.59520	0.32852	23.93307	36	6.169
4	0.25638	0.50634	0.50875	14.52972	25	4.859
5	0.20658	0.45451	0.68415	8.16096	16	5.607
6	0.09356	0.30588	0.86228	3.18588	9	4.353
7	0.02621	0.16190	0.95128	1.07384	4	16.160
8	0.02311	0.15203	0.97689	0.50274	1	52.170

## COEFFICIENTS FOR LEFT HAND VARIABLES

CANONICAL CORRELATION	H10	H11	H12	H13	H14	H15	H16	H17	H18
0.84781	0.36051	-0.39617	0.23817	-0.34442	-0.32910	0.14893	0.01348	-0.65285	-0.18566
0.79048	0.94611	-0.38015	-0.15028	-0.55161	-0.17539	-0.15865	-0.65874	-0.25526	0.45235
0.66556	0.05666	-0.05612	-0.60289	0.51363	-0.44588	-0.27098	0.59674	0.67409	-0.07009
0.59520	-0.40578	0.42813	0.07169	0.13445	-0.28609	0.32783	0.23981	-0.22127	0.33494
0.50634	-0.16158	0.45181	-0.53046	-0.61693	0.21068	-0.15899	-0.06736	-0.03201	0.24823
0.45451	-0.51305	-0.11317	0.55220	0.05831	-0.10677	-0.59501	0.04838	0.21605	-0.26321
0.30588	0.10653	0.18458	0.42458	-0.30871	-0.05528	0.15274	0.40694	0.28895	-0.20632
0.16190	0.16632	0.65306	-0.13921	-0.36732	-0.66883	0.95233	-0.56998	-0.19207	-0.52441
0.15203	0.05458	0.45085	0.20547	0.42495	0.15953	-0.29132	0.35089	0.00596	-0.62055

## COEFFICIENTS FOR RIGHT HAND VARIABLES

CANONICAL CORRELATION	H67	H68	H69	H70	H71	H72	H73	H74	H75
0.84781	-0.34348	0.17966	0.28749	0.26923	-0.06412	-0.56584	-0.48757	0.31031	0.19054
0.79048	0.33452	0.17768	-0.47438	0.13801	0.22749	-0.18205	-0.13545	0.58752	0.40498
0.66556	-0.07516	-0.74279	0.16134	0.02893	-0.20003	0.52746	-0.03918	0.22664	0.21120
0.59520	0.28852	-0.13292	0.54806	0.03427	0.08123	0.12791	0.27289	-0.68753	0.16557
0.50634	0.19881	-0.38245	0.17386	-0.07165	0.18502	-0.47933	0.45229	0.28680	-0.47752
0.45451	-0.14972	0.36128	0.05182	-0.70070	-0.07296	-0.40868	-0.10708	0.37065	0.17947
0.30588	-0.49620	0.25281	-0.02313	0.14416	0.66469	0.05967	0.05351	0.26822	-0.38521
0.16190	0.12452	0.26547	0.35676	0.24032	-0.23160	0.33797	0.21014	0.30548	-0.65088
0.15203	-0.26990	0.07588	-0.04904	-0.03075	-0.34139	-0.14790	0.49703	-0.40632	0.60620



TECHNICAL SKILL--MARKET COMMITMENT  
C1-C9--C19-C24

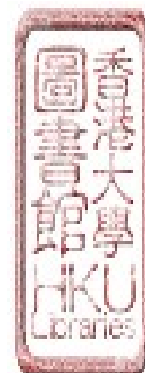
Canonical Redundancy Analysis

Raw Variance of the criterion set

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.1075	0.1075	0.7968	0.0856	0.0856
2	0.2279	0.3354	0.7387	0.1683	0.2540
3	0.1090	0.4444	0.6243	0.0681	0.3220
4	0.1197	0.5640	0.3275	0.0392	0.3612
5	0.0484	0.6124	0.1386	0.0067	0.3679
6	0.0765	0.6890	0.0920	0.0070	0.3750

Raw Variance of the prediction Variables

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.0789	0.0789	0.7968	0.0629	0.0629
2	0.1151	0.1940	0.7387	0.0850	0.1479
3	0.5192	0.7132	0.6243	0.3241	0.4720
4	0.1253	0.8385	0.3275	0.0410	0.5130
5	0.0867	0.9252	0.1386	0.0120	0.5250
6	0.0748	1.0000	0.0920	0.0069	0.5319



TECHNICAL SKILL--COMPANY COMMITMENT  
C1-9--C25-C29

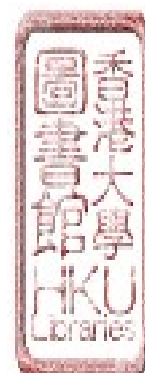
Canonical Redundancy Analysis

Raw Variance of the criterion set

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1 0.3521	0.3521	0.8184		0.2881	0.2881
2 0.0690	0.4211	0.6283		0.0434	0.3315
3 0.0958	0.5169	0.3560		0.0341	0.3656
4 0.0420	0.5590	0.2323		0.0098	0.3754
5 0.0768	0.6358	0.1000		0.0077	0.3831

Raw Variance of the prediction Variables

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1 0.2737	0.2737	0.8184		0.2240	0.2240
2 0.2361	0.5098	0.6283		0.1484	0.3723
3 0.1493	0.6591	0.3560		0.0531	0.4255
4 0.1500	0.8091	0.2323		0.0348	0.4603
5 0.1909	1.0000	0.1000		0.0191	0.4794





TECHNICAL SKILL--DISTANCE  
C1-C9--C30-C47

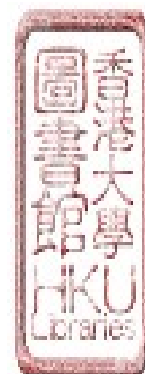
Canonical Redundancy Analysis

Raw Variance of the criterion set

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1 0.0644	0.0644	1.0000		0.0644	0.0644
2 0.2337	0.2982	1.0000		0.2337	0.2982
3 0.0322	0.3304	0.9539		0.0307	0.3289
4 0.1640	0.4944	0.9172		0.1504	0.4793
5 0.0747	0.5691	0.8214		0.0614	0.5407
6 0.0422	0.6113	0.7192		0.0304	0.5710
7 0.2499	0.8613	0.5906		0.1476	0.7187
8 0.0860	0.9472	0.2849		0.0245	0.7432
9 0.0528	1.0000	0.1756		0.0093	0.7524

Raw Variance of the prediction Variables

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1 0.1032	0.1032	1.0000		0.1032	0.1032
2 0.0287	0.1319	1.0000		0.0287	0.1319
3 0.0564	0.1883	0.9539		0.0538	0.1857
4 0.0846	0.2729	0.9172		0.0776	0.2633
5 0.0531	0.3260	0.8214		0.0437	0.3069
6 0.0315	0.3576	0.7192		0.0227	0.3296
7 0.1375	0.4951	0.5906		0.0812	0.4108
8 0.0434	0.5385	0.2849		0.0124	0.4232
9 0.0326	0.5711	0.1756		0.0057	0.4289



TECHNICAL SKILL--ADAPTABILITY  
C1-C9--C48-54

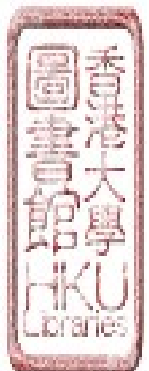
Canonical Redundancy Analysis

Raw Variance of the criterion set

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1 0.2433	0.2433	0.8505		0.2069	0.2069
2 0.0691	0.3124	0.6740		0.0466	0.2535
3 0.1820	0.4944	0.4649		0.0846	0.3381
4 0.1025	0.5969	0.3745		0.0384	0.3765
5 0.0766	0.6735	0.2004		0.0153	0.3918
6 0.0395	0.7130	0.0764		0.0030	0.3949
7 0.1183	0.8313	0.0287		0.0034	0.3983

Raw Variance of the prediction Variables

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1 0.2919	0.2919	0.8505		0.2483	0.2483
2 0.1188	0.4107	0.6740		0.0801	0.3283
3 0.1531	0.5638	0.4649		0.0712	0.3995
4 0.0216	0.5855	0.3745		0.0081	0.4076
5 0.2165	0.8019	0.2004		0.0434	0.4510
6 0.0773	0.8792	0.0764		0.0059	0.4569
7 0.1208	1.0000	0.0287		0.0035	0.4604



TECHNICAL SKILL--CONFLICT  
C1-C9--C55-C59

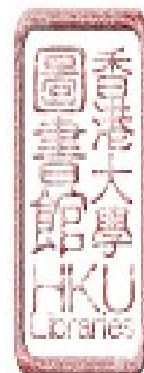
Canonical Redundancy Analysis

Raw Variance of the criterion set

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1 0.2053	0.2053	0.7232		0.1485	0.1485
2 0.1344	0.3397	0.5836		0.0784	0.2269
3 0.0646	0.4043	0.4887		0.0316	0.2585
4 0.2081	0.6124	0.2866		0.0596	0.3181
5 0.0584	0.6708	0.1107		0.0065	0.3246

Raw Variance of the prediction Variables

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1 0.3102	0.3102	0.7232		0.2243	0.2243
2 0.0972	0.4074	0.5836		0.0567	0.2811
3 0.2268	0.6342	0.4887		0.1108	0.3919
4 0.2293	0.8635	0.2866		0.0657	0.4576
5 0.1365	1.0000	0.1107		0.0151	0.4727



TECHNICAL SKILL--MARKET FACTOR  
C1-C9--C60-C66

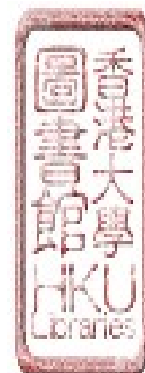
Canonical Redundancy Analysis

Raw Variance of the criterion set

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.0577	0.0577	0.8966	0.0518	0.0518
2	0.0555	0.1132	0.8128	0.0451	0.0969
3	0.0556	0.1688	0.5828	0.0324	0.1293
4	0.0650	0.2338	0.3536	0.0230	0.1523
5	0.0720	0.3059	0.3093	0.0223	0.1745
6	0.0343	0.3401	0.1646	0.0056	0.1802
7	0.0663	0.4064	0.0310	0.0021	0.1822

Raw Variance of the prediction Variables

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.1705	0.1705	0.8966	0.1528	0.1528
2	0.0793	0.2497	0.8128	0.0644	0.2173
3	0.0872	0.3370	0.5828	0.0509	0.2681
4	0.1804	0.5174	0.3536	0.0638	0.3319
5	0.2137	0.7311	0.3093	0.0661	0.3980
6	0.1967	0.9278	0.1646	0.0324	0.4304
7	0.0722	1.0000	0.0310	0.0022	0.4326



TECHNICAL SKILL--MARKET ACTIVITY  
C1-C9--C67-75

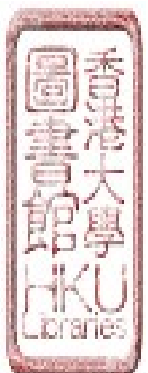
Canonical Redundancy Analysis

Raw Variance of the criterion set

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.0388	0.0388	0.7893	0.0306	0.0306
2	0.1009	0.1397	0.7336	0.0740	0.1047
3	0.0603	0.2000	0.5927	0.0358	0.1404
4	0.2002	0.4002	0.4548	0.0911	0.2315
5	0.1064	0.5066	0.3146	0.0335	0.2650
6	0.0502	0.5569	0.2546	0.0128	0.2777
7	0.3270	0.8838	0.0680	0.0222	0.3000
8	0.0651	0.9490	0.0209	0.0014	0.3013
9	0.0510	1.0000	0.0028	0.0001	0.3015

Raw Variance of the prediction Variables

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.0936	0.0936	0.7893	0.0739	0.0739
2	0.1475	0.2411	0.7336	0.1082	0.1821
3	0.0708	0.3119	0.5927	0.0420	0.2240
4	0.1294	0.4413	0.4548	0.0589	0.2829
5	0.1556	0.5969	0.3146	0.0489	0.3319
6	0.0945	0.6914	0.2546	0.0241	0.3559
7	0.1133	0.8047	0.0680	0.0077	0.3636
8	0.1111	0.9158	0.0209	0.0023	0.3659
9	0.0842	1.0000	0.0028	0.0002	0.3662



COMMERCIAL SKILL--MARKET COMMITMENT  
C10-C19--C19-C24

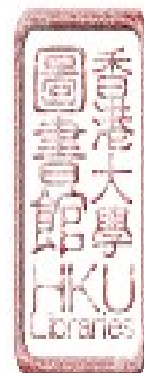
Canonical Redundancy Analysis

Raw Variance of the criterion set

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.2647	0.2647	0.8366	0.2215	0.2215
2	0.1182	0.3829	0.7642	0.0903	0.3118
3	0.0445	0.4274	0.4237	0.0189	0.3306
4	0.1311	0.5585	0.2842	0.0373	0.3679
5	0.1221	0.6806	0.0268	0.0033	0.3711
6	0.1108	0.7914	0.0073	0.0008	0.3720

Raw Variance of the prediction Variables

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.4869	0.4869	0.8366	0.4073	0.4073
2	0.1089	0.5958	0.7642	0.0832	0.4905
3	0.0897	0.6855	0.4237	0.0380	0.5285
4	0.1309	0.8164	0.2842	0.0372	0.5657
5	0.0981	0.9144	0.0268	0.0026	0.5683
6	0.0856	1.0000	0.0073	0.0006	0.5690



COMMERCIAL SKILL--COMPANY COMMITMENT  
C10-C18--C25-29

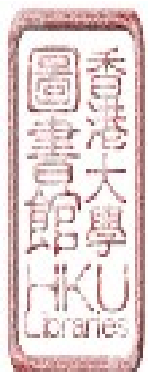
Canonical Redundancy Analysis

Raw Variance of the criterion set

Explained by					
Their Own Canonical Variables			The Opposite Canonical Variables		
	Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion
1	0.2428	0.2428	0.7872	0.1911	0.1911
2	0.1161	0.3589	0.3655	0.0424	0.2336
3	0.1103	0.4692	0.1949	0.0215	0.2551
4	0.0543	0.5235	0.1477	0.0080	0.2631
5	0.0508	0.5743	0.0234	0.0012	0.2643

Raw Variance of the prediction Variables

Explained by					
Their Own Canonical Variables			The Opposite Canonical Variables		
	Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion
1	0.2254	0.2254	0.7872	0.1774	0.1774
2	0.1323	0.3576	0.3655	0.0483	0.2258
3	0.2600	0.6176	0.1949	0.0507	0.2764
4	0.1908	0.8084	0.1477	0.0282	0.3046
5	0.1916	1.0000	0.0234	0.0045	0.3091



COMMERCIAL--DISTANCE  
C10-C18--C30-47

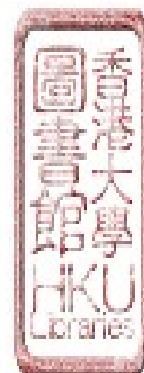
Canonical Redundancy Analysis

Raw Variance of the criterion set

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.1440	0.1440	1.0000	0.1440	0.1440
2	0.1023	0.2464	1.0000	0.1023	0.2464
3	0.0625	0.3089	0.9635	0.0602	0.3066
4	0.0699	0.3788	0.9248	0.0646	0.3712
5	0.1386	0.5174	0.8947	0.1240	0.4953
6	0.2082	0.7256	0.7889	0.1642	0.6595
7	0.0673	0.7928	0.6842	0.0460	0.7055
8	0.1006	0.8934	0.4944	0.0497	0.7552
9	0.1066	1.0000	0.2398	0.0256	0.7808

Raw Variance of the prediction Variables

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.0957	0.0957	1.0000	0.0957	0.0957
2	0.0463	0.1420	1.0000	0.0463	0.1420
3	0.0974	0.2395	0.9635	0.0939	0.2359
4	0.0357	0.2752	0.9248	0.0330	0.2690
5	0.0345	0.3097	0.8947	0.0309	0.2998
6	0.0997	0.4094	0.7889	0.0787	0.3785
7	0.0828	0.4922	0.6842	0.0567	0.4352
8	0.0707	0.5629	0.4944	0.0350	0.4701
9	0.0709	0.6339	0.2398	0.0170	0.4871





COMMERCIAL SKILL--ADA[TABILITY  
C10-C18--C48-C54

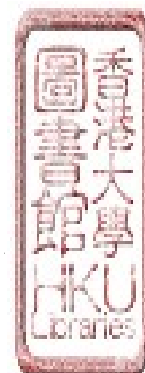
Canonical Redundancy Analysis

Raw Variance of the criterion set

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.3473	0.3473	0.9257	0.3215	0.3215
2	0.1281	0.4754	0.7612	0.0975	0.4190
3	0.1712	0.6466	0.5828	0.0998	0.5188
4	0.0576	0.7042	0.2467	0.0142	0.5330
5	0.0538	0.7580	0.1172	0.0063	0.5393
6	0.0708	0.8288	0.0358	0.0025	0.5419
7	0.0520	0.8808	0.0113	0.0006	0.5424

Raw Variance of the prediction Variables

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.4896	0.4896	0.9257	0.4532	0.4532
2	0.1381	0.6277	0.7612	0.1051	0.5584
3	0.1078	0.7355	0.5828	0.0628	0.6212
4	0.0678	0.8033	0.2467	0.0167	0.6379
5	0.0403	0.8436	0.1172	0.0047	0.6426
6	0.0439	0.8875	0.0358	0.0016	0.6442
7	0.1125	1.0000	0.0113	0.0013	0.6455



COMMERCIAL SKILL--CONFLICT  
C10-C18--C55-C59

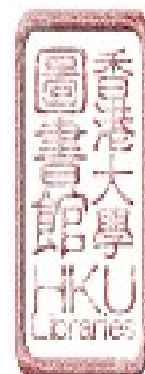
Canonical Redundancy Analysis

Raw Variance of the criterion set

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1 0.2466	0.2466	0.7261		0.1791	0.1791
2 0.0959	0.3425	0.4798		0.0460	0.2251
3 0.1052	0.4477	0.4281		0.0450	0.2701
4 0.0586	0.5063	0.2711		0.0159	0.2860
5 0.0844	0.5907	0.1721		0.0145	0.3005

Raw Variance of the prediction Variables

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1 0.3996	0.3996	0.7261		0.2902	0.2902
2 0.1602	0.5598	0.4798		0.0769	0.3670
3 0.1654	0.7253	0.4281		0.0708	0.4379
4 0.0930	0.8183	0.2711		0.0252	0.4631
5 0.1817	1.0000	0.1721		0.0313	0.4944



COMMERCIAL SKILL--MARKET FACTORS  
C10-C18--C60-C66

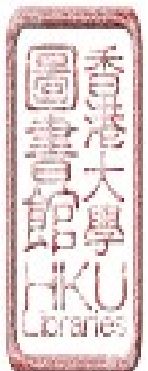
Canonical Redundancy Analysis

Raw Variance of the criterion set

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.1286	0.1286	0.8070	0.1038	0.1038
2	0.0784	0.2070	0.7467	0.0585	0.1623
3	0.1509	0.3579	0.4962	0.0749	0.2372
4	0.0886	0.4465	0.4612	0.0409	0.2781
5	0.0612	0.5077	0.0857	0.0052	0.2833
6	0.0982	0.6059	0.0387	0.0038	0.2871
7	0.1342	0.7401	0.0182	0.0024	0.2895

Raw Variance of the prediction Variables

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.1245	0.1245	0.8070	0.1005	0.1005
2	0.2145	0.3390	0.7467	0.1601	0.2606
3	0.1888	0.5278	0.4962	0.0937	0.3543
4	0.1116	0.6394	0.4612	0.0515	0.4058
5	0.1420	0.7814	0.0857	0.0122	0.4180
6	0.1279	0.9093	0.0387	0.0049	0.4229
7	0.0907	1.0000	0.0182	0.0016	0.4246



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 COMMERCIAL SKILL--MARKET ACTIVITY  
 C10-C18--C67-C75  
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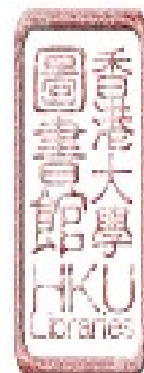
Canonical Redundancy Analysis

Raw Variance of the criterion set

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.1722	0.1722	0.9025	0.1554	0.1554
2	0.1237	0.2959	0.7656	0.0947	0.2502
3	0.1393	0.4352	0.5141	0.0716	0.3218
4	0.0918	0.5270	0.4342	0.0399	0.3616
5	0.1175	0.6445	0.3912	0.0460	0.4076
6	0.0666	0.7111	0.2826	0.0188	0.4264
7	0.0976	0.8087	0.0824	0.0080	0.4345
8	0.0679	0.8766	0.0162	0.0011	0.4356
9	0.1234	1.0000	0.0000	0.0000	0.4356

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 Raw Variance of the prediction Variables

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.1899	0.1899	0.9025	0.1713	0.1713
2	0.0581	0.2480	0.7656	0.0445	0.2159
3	0.1509	0.3989	0.5141	0.0776	0.2934
4	0.1051	0.5040	0.4342	0.0456	0.3391
5	0.0599	0.5640	0.3912	0.0234	0.3625
6	0.0666	0.6305	0.2826	0.0188	0.3814
7	0.1964	0.8270	0.0824	0.0162	0.3975
8	0.0850	0.9120	0.0162	0.0014	0.3989
9	0.0880	1.0000	0.0000	0.0000	0.3989



SELLER

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TECHNICAL SKILL--MARKET COMMITMENT  
C1-C9--C19-C24  
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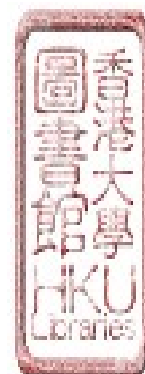
Canonical Redundancy Analysis

Raw Variance of the criterion set

Explained by					
Their Own Canonical Variables			The Opposite Canonical Variables		
	Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion
1	0.1378	0.1378	0.6275	0.0865	0.0865
2	0.0951	0.2329	0.3684	0.0350	0.1215
3	0.1371	0.3700	0.3065	0.0420	0.1635
4	0.1005	0.4705	0.1917	0.0193	0.1828
5	0.0902	0.5607	0.1477	0.0133	0.1961
6	0.0491	0.6098	0.1163	0.0057	0.2018

Raw Variance of the prediction Variables

Explained by					
Their Own Canonical Variables			The Opposite Canonical Variables		
	Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion
1	0.0480	0.0480	0.6275	0.0301	0.0301
2	0.3462	0.3942	0.3684	0.1276	0.1577
3	0.1340	0.5282	0.3065	0.0411	0.1987
4	0.0997	0.6279	0.1917	0.0191	0.2178
5	0.2085	0.8364	0.1477	0.0308	0.2486
6	0.1636	1.0000	0.1163	0.0190	0.2677



SELLER

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TECHNICAL SKILL--COMPANY COMMITMENT  
C1-C9--C25-C29  
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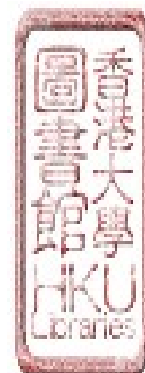
Canonical Redundancy Analysis

Raw Variance of the criterion set

Explained by					
Their Own Canonical Variables			The Opposite Canonical Variables		
	Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion
1	0.1048	0.1048	0.6354	0.0666	0.0666
2	0.1106	0.2155	0.5269	0.0583	0.1249
3	0.0985	0.3140	0.4795	0.0472	0.1721
4	0.1019	0.4159	0.2522	0.0257	0.1978
5	0.1643	0.5802	0.0682	0.0112	0.2091

Raw Variance of the prediction Variables

Explained by					
Their Own Canonical Variables			The Opposite Canonical Variables		
	Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion
1	0.1604	0.1604	0.6354	0.1019	0.1019
2	0.4352	0.5956	0.5269	0.2293	0.3312
3	0.1126	0.7082	0.4795	0.0540	0.3852
4	0.1714	0.8796	0.2522	0.0432	0.4284
5	0.1204	1.0000	0.0682	0.0082	0.4366



SELLER

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TECHNICAL SKILL--DISTANCE  
C1-C9--C30-C47

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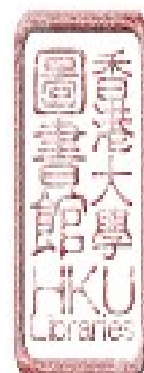
Canonical Redundancy Analysis

Raw Variance of the criterion set

Explained by					
Their Own Canonical Variables		Canonical R-Squared	The Opposite Canonical Variables		Cumulative Proportion
Proportion	Cumulative Proportion		Proportion	Cumulative Proportion	
1	0.0685	0.9825	0.0673	0.0673	0.0673
2	0.1193	0.9520	0.1136	0.1809	0.1809
3	0.0895	0.9339	0.0836	0.2644	0.2644
4	0.0618	0.8113	0.0502	0.3146	0.3146
5	0.0851	0.7839	0.0667	0.3813	0.3813
6	0.1173	0.5542	0.0650	0.4464	0.4464
7	0.2084	0.5248	0.1094	0.5557	0.5557
8	0.1415	0.2725	0.0386	0.5943	0.5943
9	0.1086	0.1788	0.0194	0.6137	0.6137

Raw Variance of the prediction Variables

Explained by					
Their Own Canonical Variables		Canonical R-Squared	The Opposite Canonical Variables		Cumulative Proportion
Proportion	Cumulative Proportion		Proportion	Cumulative Proportion	
1	0.0510	0.9825	0.0501	0.0501	0.0501
2	0.0385	0.9520	0.0366	0.0867	0.0867
3	0.0967	0.9339	0.0903	0.1770	0.1770
4	0.0503	0.8113	0.0408	0.2178	0.2178
5	0.0838	0.7839	0.0657	0.2835	0.2835
6	0.0489	0.5542	0.0271	0.3106	0.3106
7	0.0678	0.5248	0.0356	0.3462	0.3462
8	0.1144	0.2725	0.0312	0.3774	0.3774
9	0.0284	0.1788	0.0051	0.3825	0.3825



SELLER

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TECHNICAL SKILL--ADAPTABILITY  
C1-C9--C48-C54

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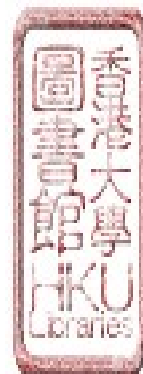
Canonical Redundancy Analysis

Raw Variance of the criterion set

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.1148	0.1148	0.7995	0.0918	0.0918
2	0.0740	0.1888	0.5584	0.0413	0.1331
3	0.1238	0.3127	0.3686	0.0456	0.1788
4	0.0461	0.3588	0.1639	0.0076	0.1863
5	0.2160	0.5748	0.0694	0.0150	0.2013
6	0.0655	0.6403	0.0589	0.0039	0.2052
7	0.0590	0.6993	0.0289	0.0017	0.2069

Raw Variance of the prediction Variables

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.2189	0.2189	0.7995	0.1750	0.1750
2	0.0701	0.2891	0.5584	0.0392	0.2142
3	0.0864	0.3755	0.3686	0.0318	0.2461
4	0.0800	0.4555	0.1639	0.0131	0.2592
5	0.1965	0.6520	0.0694	0.0136	0.2728
6	0.2215	0.8735	0.0589	0.0130	0.2858
7	0.1265	1.0000	0.0289	0.0037	0.2895





SELLER

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TECHNICAL SKILL--CONFLICT  
C1-C9--C55-C59  
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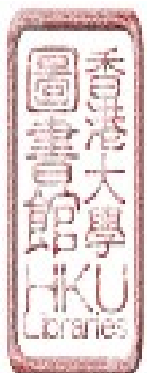
Canonical Redundancy Analysis

Raw Variance of the criterion set

Explained by					
Their Own Canonical Variables			The Opposite Canonical Variables		
	Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion
1	0.0876	0.0876	0.5335	0.0467	0.0467
2	0.1534	0.2410	0.3916	0.0601	0.1068
3	0.0880	0.3290	0.2470	0.0217	0.1285
4	0.1246	0.4536	0.1830	0.0228	0.1513
5	0.1084	0.5620	0.1239	0.0134	0.1648

Raw Variance of the prediction Variables

Explained by					
Their Own Canonical Variables			The Opposite Canonical Variables		
	Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion
1	0.1158	0.1158	0.5335	0.0618	0.0618
2	0.3443	0.4601	0.3916	0.1348	0.1966
3	0.1550	0.6151	0.2470	0.0383	0.2349
4	0.1650	0.7802	0.1830	0.0302	0.2651
5	0.2198	1.0000	0.1239	0.0272	0.2923



SELLER

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TECHNICAL SKILL--MARKET FACTOR  
C1-C9--C60-C66  
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Canonical Redundancy Analysis

Raw Variance of the criterion set

Explained by					
Their Own Canonical Variables			The Opposite Canonical Variables		
Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion	
1	0.0784	0.0784	0.0553	0.0553	
2	0.1023	0.1807	0.0591	0.1143	
3	0.1067	0.2874	0.0489	0.1632	
4	0.0800	0.3674	0.0327	0.1959	
5	0.1667	0.5341	0.0557	0.2516	
6	0.0927	0.6268	0.0164	0.2681	
7	0.0793	0.7060	0.0045	0.2726	

Raw Variance of the prediction Variables

Explained by					
Their Own Canonical Variables			The Opposite Canonical Variables		
Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion	
1	0.1126	0.1126	0.0794	0.0794	
2	0.1865	0.2991	0.1076	0.1870	
3	0.2066	0.5057	0.0946	0.2816	
4	0.0716	0.5773	0.0293	0.3109	
5	0.1530	0.7303	0.0511	0.3620	
6	0.1239	0.8541	0.0220	0.3840	
7	0.1459	1.0000	0.0084	0.3924	



SELLER

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TECHNICAL SKILL--MARKET ACTIVITY  
C1-C9--C67-C75  
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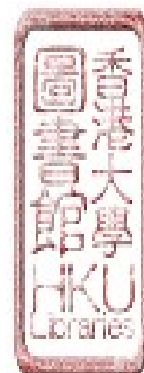
Canonical Redundancy Analysis

Raw Variance of the criterion set

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.0944	0.0944	0.8592	0.0811	0.0811
2	0.1600	0.2544	0.8032	0.1285	0.2097
3	0.1590	0.4134	0.6924	0.1101	0.3197
4	0.1103	0.5238	0.4429	0.0489	0.3686
5	0.1396	0.6633	0.4324	0.0603	0.4290
6	0.0729	0.7363	0.3016	0.0220	0.4510
7	0.0981	0.8344	0.1894	0.0186	0.4695
8	0.1141	0.9484	0.0375	0.0043	0.4738
9	0.0516	1.0000	0.0097	0.0005	0.4743

Raw Variance of the prediction Variables

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared		Proportion	Cumulative Proportion
1	0.1960	0.1960	0.8592	0.1684	0.1684
2	0.0679	0.2640	0.8032	0.0546	0.2230
3	0.0837	0.3477	0.6924	0.0580	0.2810
4	0.1483	0.4960	0.4429	0.0657	0.3467
5	0.0790	0.5749	0.4324	0.0341	0.3808
6	0.1580	0.7330	0.3016	0.0477	0.4285
7	0.0772	0.8102	0.1894	0.0146	0.4431
8	0.0675	0.8777	0.0375	0.0025	0.4456
9	0.1223	1.0000	0.0097	0.0012	0.4468



SELLER

COMMERCIAL SKILL--MARKET COMMITMENT  
C10-C18--C19-C24

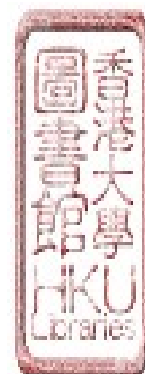
Canonical Redundancy Analysis

Raw Variance of the criterion set

Explained by					
Their Own Canonical Variables		Canonical R-Squared	The Opposite Canonical Variables		
Proportion	Cumulative Proportion		Proportion	Cumulative Proportion	
1	0.2689	0.8092	0.2176	0.2176	
2	0.0847	0.5875	0.0497	0.2673	
3	0.0814	0.3920	0.0319	0.2992	
4	0.1545	0.3650	0.0564	0.3557	
5	0.0719	0.2310	0.0166	0.3723	
6	0.1172	0.1251	0.0147	0.3869	

Raw Variance of the prediction Variables

Explained by					
Their Own Canonical Variables		Canonical R-Squared	The Opposite Canonical Variables		
Proportion	Cumulative Proportion		Proportion	Cumulative Proportion	
1	0.2465	0.8092	0.1995	0.1995	
2	0.2048	0.5875	0.1203	0.3198	
3	0.2493	0.3920	0.0977	0.4175	
4	0.1472	0.3650	0.0537	0.4712	
5	0.0645	0.2310	0.0149	0.4861	
6	0.0877	0.1251	0.0110	0.4971	



SELLER

COMMERCIAL SKILL--COMPANY COMMITMENT  
C10-C18--C25-C29

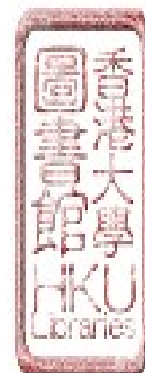
Canonical Redundancy Analysis

Raw Variance of the criterion set

Explained by					
Their Own Canonical Variables			The Opposite Canonical Variables		
	Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion
1	0.2043	0.2043	0.7262	0.1484	0.1484
2	0.1470	0.3514	0.5302	0.0780	0.2263
3	0.1779	0.5292	0.4591	0.0816	0.3080
4	0.0532	0.5824	0.3648	0.0194	0.3274
5	0.0641	0.6465	0.2232	0.0143	0.3417

Raw Variance of the prediction Variables

Explained by					
Their Own Canonical Variables			The Opposite Canonical Variables		
	Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion
1	0.2621	0.2621	0.7262	0.1904	0.1904
2	0.1557	0.4178	0.5302	0.0825	0.2729
3	0.1826	0.6004	0.4591	0.0838	0.3567
4	0.1961	0.7965	0.3648	0.0716	0.4283
5	0.2035	1.0000	0.2232	0.0454	0.4737



SELLER

COMMERCIAL SKILL--DISTANCE  
C10-C18--C30-C47

C10-C18--C30-C47

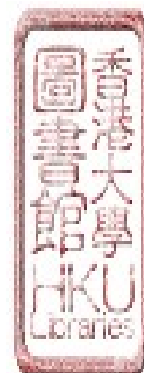
Canonical Redundancy Analysis

Raw Variance of the criterion set

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion	
1	0.1808	0.1808	0.9776	0.1767	0.1767
2	0.1946	0.3754	0.9571	0.1863	0.3630
3	0.1634	0.5388	0.8648	0.1413	0.5043
4	0.0753	0.6142	0.8410	0.0633	0.5677
5	0.1193	0.7335	0.7257	0.0866	0.6543
6	0.0700	0.8035	0.5993	0.0420	0.6963
7	0.0609	0.8644	0.4793	0.0292	0.7254
8	0.0653	0.9297	0.3760	0.0246	0.7500
9	0.0703	1.0000	0.2127	0.0150	0.7649

Raw Variance of the prediction Variables

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion	
1	0.0628	0.0628	0.9776	0.0614	0.0614
2	0.0542	0.1170	0.9571	0.0519	0.1133
3	0.0600	0.1770	0.8648	0.0518	0.1652
4	0.0488	0.2258	0.8410	0.0411	0.2062
5	0.0434	0.2692	0.7257	0.0315	0.2377
6	0.0460	0.3152	0.5993	0.0276	0.2653
7	0.0749	0.3901	0.4793	0.0359	0.3012
8	0.0662	0.4563	0.3760	0.0249	0.3260
9	0.0388	0.4950	0.2127	0.0082	0.3343



SELLER

COMMERCIAL SKILL--ADAPTABILITY  
C10-C18--C48-C54

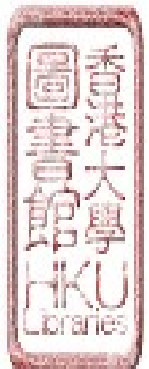
Canonical Redundancy Analysis

Raw Variance of the criterion set

Explained by					
Their Own Canonical Variables			The Opposite Canonical Variables		
	Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion
1	0.1008	0.1008	0.7077	0.0714	0.0714
2	0.3066	0.4075	0.5814	0.1783	0.2496
3	0.0883	0.4957	0.3799	0.0335	0.2832
4	0.0600	0.5557	0.2616	0.0157	0.2989
5	0.0848	0.6405	0.1036	0.0088	0.3076
6	0.1031	0.7436	0.0793	0.0082	0.3158
7	0.1061	0.8498	0.0261	0.0028	0.3186

Raw Variance of the prediction Variables

Explained by					
Their Own Canonical Variables			The Opposite Canonical Variables		
	Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion
1	0.1219	0.1219	0.7077	0.0863	0.0863
2	0.3163	0.4383	0.5814	0.1839	0.2702
3	0.1450	0.5833	0.3799	0.0551	0.3253
4	0.0577	0.6410	0.2616	0.0151	0.3404
5	0.0842	0.7252	0.1036	0.0087	0.3491
6	0.0839	0.8091	0.0793	0.0067	0.3558
7	0.1909	1.0000	0.0261	0.0050	0.3608



SELLER

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COMMERCIAL SKILL--CONFLICT  
C10-C18--C55-C59

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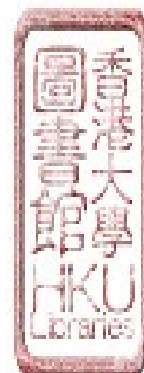
Canonical Redundancy Analysis

Raw Variance of the criterion set

Explained by					
Their Own Canonical Variables		Canonical R-Squared	The Opposite Canonical Variables		
Proportion	Cumulative Proportion		Proportion	Cumulative Proportion	
1	0.2227	0.2227	0.1399	0.1399	
2	0.1272	0.3499	0.0567	0.1966	
3	0.0922	0.4421	0.0247	0.2213	
4	0.1268	0.5689	0.0131	0.2344	
5	0.0775	0.6464	0.0064	0.2407	

Raw Variance of the prediction Variables

Explained by					
Their Own Canonical Variables		Canonical R-Squared	The Opposite Canonical Variables		
Proportion	Cumulative Proportion		Proportion	Cumulative Proportion	
1	0.1804	0.1804	0.1133	0.1133	
2	0.1027	0.2831	0.0458	0.1591	
3	0.1672	0.4503	0.0448	0.2039	
4	0.2713	0.7216	0.0279	0.2318	
5	0.2784	1.0000	0.0228	0.2547	





SELLER

COMMERCIAL SKILL--MARKET FACTOR  
C10-C18--C60-C66

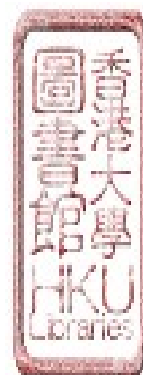
Canonical Redundancy Analysis

Raw Variance of the criterion set

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion	
1	0.0685	0.0685	0.7121	0.0487	0.0487
2	0.1228	0.1912	0.5033	0.0618	0.1105
3	0.1343	0.3255	0.3208	0.0431	0.1536
4	0.1135	0.4390	0.2477	0.0281	0.1817
5	0.0837	0.5227	0.1253	0.0105	0.1922
6	0.1241	0.6469	0.0596	0.0074	0.1996
7	0.0637	0.7105	0.0314	0.0020	0.2016

Raw Variance of the prediction Variables

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion	
1	0.1296	0.1296	0.0923	0.0923	0.0923
2	0.1180	0.2477	0.0594	0.1517	0.1517
3	0.0961	0.3438	0.0308	0.1826	0.1826
4	0.1593	0.5031	0.0394	0.2220	0.2220
5	0.2222	0.7253	0.0278	0.2498	0.2498
6	0.2026	0.9279	0.0121	0.2619	0.2619
7	0.0721	1.0000	0.0023	0.2642	0.2642



COMMERCIAL SKILL--MARKET ACTIVITY  
C10-C18--C67-C75

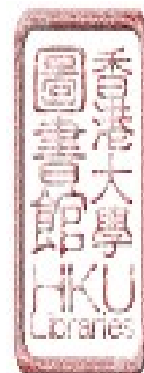
Canonical Redundancy Analysis

Raw Variance of the criterion set

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
	Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion
1	0.2042	0.2042	0.7188	0.1468	0.1468
2	0.2005	0.4047	0.6249	0.1253	0.2720
3	0.0577	0.4623	0.4430	0.0256	0.2976
4	0.1111	0.5734	0.3543	0.0393	0.3369
5	0.1317	0.7051	0.2564	0.0338	0.3707
6	0.0704	0.7755	0.2066	0.0146	0.3852
7	0.1053	0.8808	0.0936	0.0099	0.3951
8	0.0621	0.9429	0.0262	0.0016	0.3967
9	0.0571	1.0000	0.0231	0.0013	0.3980

Raw Variance of the prediction Variables

Their Own Canonical Variables			Explained by	The Opposite Canonical Variables	
	Proportion	Cumulative Proportion	Canonical R-Squared	Proportion	Cumulative Proportion
1	0.1341	0.1341	0.7188	0.0964	0.0964
2	0.1725	0.3065	0.6249	0.1078	0.2041
3	0.0900	0.3965	0.4430	0.0399	0.2440
4	0.0876	0.4841	0.3543	0.0310	0.2750
5	0.1414	0.6255	0.2564	0.0363	0.3113
6	0.1122	0.7377	0.2066	0.0232	0.3344
7	0.0629	0.8006	0.0936	0.0059	0.3403
8	0.1376	0.9382	0.0262	0.0036	0.3439
9	0.0618	1.0000	0.0231	0.0014	0.3454

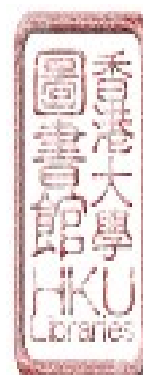


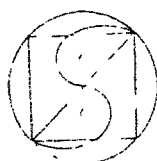
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Mr. ANTHONY W.K. CHENG  
Level 4,  
ELECTRICAL INDUSTRY TRAINING CENTRE  
13 SAN KWAI STREET  
KWAI CHUNG, N.T.

PRINTED MATTER      B

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University of Hong Kong Business School

香港大學商學院

University of Hong Kong Business School

Dear Sirs,

3 June 1991

Ref: HONG KONG BASED ELECTRICAL AND MECHANICAL INDUSTRY SURVEY

As part of a comprehensive Pacific Asia Trading Research Programme, we are conducting research among business leaders in the electrical and mechanical industry - the research is qualitative and is to do with businessmen's attitudes to marketing and purchasing relationships.

Since your company is one of the most successful organisations in the Pacific Asia region, your opinion will be very valuable to the knowledge of marketing management. We therefore solicit your kind assistance in filling a questionnaire and returning it to us. It will take up a few minutes of your time.

Please be assured that the information you provide will be handled in strict confidence and will be presented only in the form of statistical summaries without reference to any individual or establishment.

Also the statistics will be used solely for the purposes of management science study into contacts with persons and organisations in the region.

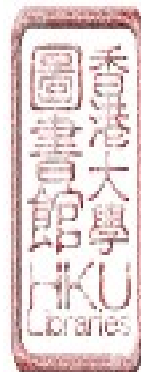
Thank you very much in advance for your kind cooperation.

Yours most faithfully,

Anthony W.K. CHENG  
Chester C.H. KWOK

The Pacific Asia Research Group for  
International Marketing and Purchasing  
c/o Room 1012, K.K. Leung Building

Director Professor S.G. Perding MAH  
University of Hong Kong Hong Kong Tel: 852 2266 Fax: 858 5614



PART ONE: YOUR PERSONAL PROFILE

Please Circle or Write as appropriate

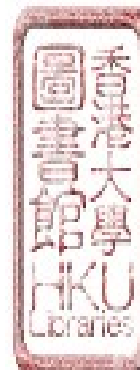
1. Your Nationality: \_\_\_\_\_ 2. Ethnic background: \_\_\_\_\_
3. Language(s) (a) Mandarin (b) Cantonese (c) Japanese  
(d) English (e) Korean (f) Other \_\_\_\_\_
4. Length of your career?  

<u>In Total Years</u>	<u>Asian Business</u>
a) 1 - 5 years	b) 1 - 5 years
c) 6 - 9 years	d) 6 - 9 years
e) 10-19 years	f) 10-19 years
g) 20 years or above	h) 20 years or above
5. Your job title: \_\_\_\_\_ 6. Your Industry: \_\_\_\_\_
7. Please briefly describe your organisation .  
(a) Multi-national (b) Regional (c) Domestic  
(d) Other \_\_\_\_\_  
and (e) location of Headquarter if not in Hong Kong \_\_\_\_\_
8. What is the number of staff employed locally in your local firm?  
(a) below 20 (b) 20 - 100 (c) above 100
9. Please indicate the position of your firm in the distribution channel.  
(a) Manufacturer (b) Exporter (c) Importer/Agent  
(d) Wholesaler (e) Consultant (f) End-user
10. What is the prime purpose of the goods you purchase?  
(a) Company own use (b) Production (c) Resale  
(d) Export (e) Use by tenant (f) Other \_\_\_\_\_
11. Where are the major places of sourcing of the components/goods of your company?  
(a) China (b) HongKong (c) Japan (d) Korea  
(e) Taiwan (f) ASEAN (g) Europe West (h) Europe East  
(i) USA/Canada (j) South America (k) Other(specify) \_\_\_\_\_
12. Where are ALL the major sources of your sales revenue(s)  
(a) China (b) HongKong (c) Japan (d) Korea  
(e) Taiwan (f) ASEAN (g) Europe West (h) Europe East  
(i) USA/Canada (j) South America (k) Other(specify) \_\_\_\_\_

PART TWO: YOUR CONTACTS WITH NATIONALS OF ASIAN COUNTRIES

WHEN ANSWERING THE FOLLOWING QUESTIONS Please Circle in 1,2 and 3 below in respect of ORGANISATIONS and PEOPLE from the EACH ONE OF THE 5 LISTED COUNTRIES in the Region

1. FIRST-HAND: I have first hand, personal experience in trading with firms/people from this country, or



2. SECOND-HAND: Business colleagues of mine have experience in trading with firms/people from this country and they explain the facts. I do work / have worked for a firm which trades with them, or
3. THIRD-HAND: My only opinions about trading with firms or people from this country are what I believe from the general media, or

---

1st Hand Experience    2nd Hand Experience    3rd Hand Experience  
 1 .....2.....3

---

Please circle according to the personal experience

	HK	China	Japan	Korea	Taiwan
2.1 Trading with Business Organisation in	<u>1</u> <u>2</u> <u>3</u>	<u>1</u> <u>2</u> <u>3</u>	<u>1</u> <u>2</u> <u>3</u>	<u>1</u> <u>2</u> <u>3</u>	<u>1</u> <u>2</u> <u>3</u>
2.2 Trading with People in	<u>1</u> <u>2</u> <u>3</u>	<u>1</u> <u>2</u> <u>3</u>	<u>1</u> <u>2</u> <u>3</u>	<u>1</u> <u>2</u> <u>3</u>	<u>1</u> <u>2</u> <u>3</u>

### PART THREE: YOUR ASIAN SOURCING STRATEGIES

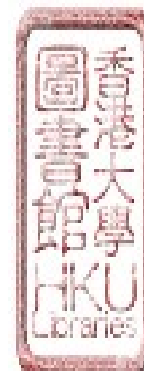
Please indicate the degree to which you agree/disagree with the following statements. Write the nearest appropriate number in all FIVE country boxes (one for every country).

Please give an opinion on EACH country.

Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	Not Applicable
1	2	3	4	5	0

Please fill in every box

I. Technical Skill	HK	China	Japan	Korea	Taiwan
1.1 Supplier's marketing people usually have a high technical competence.	—	—	—	—	—
1.2 Products from supplier are characterized by consistent quality	—	—	—	—	—
1.3 Supplier generally offers detailed technical information	—	—	—	—	—
1.4 Supplier often wants to offer us new technical solutions	—	—	—	—	—



Strongly Agree	Agree	Neutral	Disagree	Strongly Agree	Not Applicable
1	2	3	4	5	0

Please fill in every box

1.5 Necessary technical information \_\_\_\_\_  
is readily available from \_\_\_\_\_  
supplier \_\_\_\_\_

1.6 The technical information \_\_\_\_\_  
supplies by supplier is often \_\_\_\_\_  
inadequate

1.7 The suppliers have paid great attention to product appearance to fit our expectations

1.8 The product's effect on factory working conditions have been taken into serious consideration by the suppliers

1.9 The suppliers are price sensitive, they are willing to negotiate the service terms other than the price factors

II. Commerical Skill	HK	China	Japan	Korea	Taiwan
----------------------	----	-------	-------	-------	--------

2.1 Supplier usually makes \_\_\_\_\_  
punctual deliveries

2.2 Supplier's marketing people \_\_\_\_\_  
are usually high in commerical  
competence

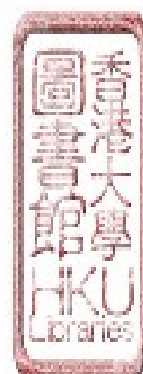
2.3 Supplier usually has the \_\_\_\_\_  
ability to make quick  
deliveries

2.4 Necessary commercial information \_\_\_\_\_  
is readily available from \_\_\_\_\_  
supplier \_\_\_\_\_

2.5 It is often unclear to what extent salesmen from supplier have the authority to agree on different sales conditions

2.6 The commercial information \_\_\_\_\_  
supplied by supplier is often  
inadequate

2.7 There is considerable \_\_\_\_\_  
difficulty in getting delivery  
information from supplier



Strongly Agree	Agree	Neutral	Disagree	Strongly Agree	Not Applicable
1	2	3	4	5	0

PLEASE fill in every box

2.8 Supplier has the ability to \_\_\_\_\_  
handle rush order

2.9 We would use price as an excuse \_\_\_\_\_  
for not buying from a  
particular supplier in order  
not to break the relation with  
it

III. Commitment - Market	HK	China	Japan	Korea	Taiwan
--------------------------	----	-------	-------	-------	--------

3.1 Supplier is usually willing to \_\_\_\_\_  
establish local stock in our \_\_\_\_\_  
territory \_\_\_\_\_

3.2 Supplier usually provides \_\_\_\_\_  
working and service instruction \_\_\_\_\_  
in our own language \_\_\_\_\_

3.3 Supplier usually provides \_\_\_\_\_  
technical documentation in our  
own language

3.4 Supplier readily agrees to  
establish service organization \_\_\_\_\_  
in our territory

3.5 Supplier's salesmen are mostly \_\_\_\_\_  
nationals of supplier's country \_\_\_\_\_

3.6 The supplier usually makes an \_\_\_\_\_  
an allowance for price  
bargaining

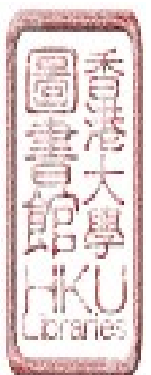
IV. Commitment - Customer                      HK   China   Japan   Korea   Taiwan

4.1 Supplier is interested in \_\_\_\_\_  
following up on how its  
products are used

4.2 Supplier tends to favour existing customers when there is a shortage of delivery capacity

4.3 Marketing activities by  
supplier usually seem to be  
aimed at acquiring new  
customers

4.4 Supplier quickly responds to our request \_\_\_\_\_





Strongly Agree    Agree    Neutral    Disagree    Strongly Agree    Not  
 Agree    1 .....2.....3.....4.....5.....0  
 Not Applicable

Please fill in every box    HK    China    Japan    Korea    Taiwan

4.5 Supplier usually takes a long time to answer our request for a quotation    —    —    —    —    —

V. Distance    HK    China    Japan    Korea    Taiwan

5.01 The bulk of communication with supplier takes place via letters and written documents    —    —    —    —    —

5.02 There are usually close personal contacts with people in supplier company    —    —    —    —    —

5.03 Cultural differences often make it difficult for buyer to have close social relationship with supplier    —    —    —    —    —

5.04 We can always trust supplier to keep us fully informed of any improvements that may affect us    —    —    —    —    —

5.05 It is difficult to make personal friends with supplier's salesmen and technicians    —    —    —    —    —

5.06 We like dealing with supplier of this country    —    —    —    —    —

5.07 Supplier has full confidence in the information we give it    —    —    —    —    —

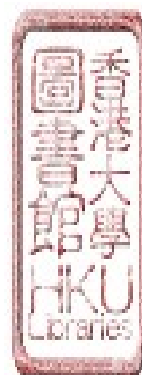
5.08 Supplier has a good understanding of our problems as buyer    —    —    —    —    —

5.09 Marketing activities by supplier are based on personal contacts rather than written information    —    —    —    —    —

5.10 Supplier generally has a poor understanding of how local companies operate    —    —    —    —    —

5.11 Language differences make it difficult for us to have a close social relationship with supplier    —    —    —    —    —

5.12 Business with supplier is usually based on mutual trust rather than legal agreement    —    —    —    —    —



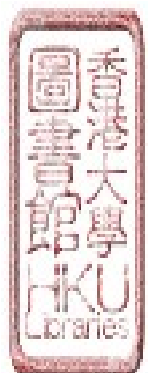
Strongly Agree    Agree    Neutral    Disagree    Strongly Agree    Not  
 Agree    ~~Disagree~~    Applicable  
 1 .....2.....3.....4.....5.....0

Please fill in every box                      HK    China    Japan    Korea    Taiwan

- 5.13 The supplier always offers us official festival gifts and the like    —    —    —    —    —
- 5.14 The supplier often sends unofficial personal gifts to their customers    —    —    —    —    —
- 5.15 The Hong Kong suppliers have a very good reputation    —    —    —    —    —
- 5.16 The foreign suppliers are generally with better reputation than local ones    —    —    —    —    —
- 5.17 In order to reach and maintain an agreement with the supplier face-to-face meetings are necessary    —    —    —    —    —
- 5.18 The supplier likes face to face meeting with us    —    —    —    —    —

VI. Adaptability                                      HK    China    Japan    Korea    Taiwan

- 6.1 Supplier readily accepts that deliveries are based on our production plans rather than its own.    —    —    —    —    —
- 6.2 Supplier is generally willing to make the product adaptations that we require    —    —    —    —    —
- 6.3 Supplier is generally ready to change procedures in order to facilitate business with a customer    —    —    —    —    —
- 6.4 Reciprocal trading agreements are often accepted by supplier    —    —    —    —    —
- 6.5 Supplier is often interested in joint product development activities    —    —    —    —    —
- 6.6 Supplier often suggests that we jointly co-ordinate our production plans    —    —    —    —    —



Strongly Agree	Agree	Neutral	Disagree	Strongly Agree	Not Applicable
1	2	3	4	5	0

Please fill in every box	HK	China	Japan	Korea	Taiwan
--------------------------	----	-------	-------	-------	--------

6.7 Supplier is characterized by \_\_\_\_\_  
it persuading us to accept its  
products rather than analysing  
our needs

## VII. Conflict

HK   China   Japan   Korea   Taiwan

7.1 Supplier is quick to handle complaints \_\_\_\_\_

7.2 Supplier often uses far-fetched  
excuses for not delivery when  
it lacks capacity

7.3 It is impossible to co-operate \_\_\_\_\_  
closely with supplier

7.4 We find a lot of unnecessary  
problems in establishing  
terms of payment with supplier

7.5 Supplier seems to get irritated  
by complaints concerning minor  
problems on weaknesses

### VIII. General Market Factors

HK   China   Japan   Korea   Taiwan

8.1 Labour disputes in this country often make it difficult to cooperate with the suppliers

8.2 Export restrictions are an \_\_\_\_\_  
obstacle to importing from this  
country

8.3 Large business fluctuations \_\_\_\_\_  
make it difficult to purchase  
from this market

8.4 The policies of Government are \_\_\_\_\_  
basically hostile to foreign  
firms

8.5 The difference in wage levels \_\_\_\_\_  
between local and foreign firms \_\_\_\_\_  
in this country gives native  
companies an advantage in their  
home market



Strongly Agree    Agree    Neutral    Disagree    Strongly Agree    Not  
 Agree    *dis*Agree    Applicable  
 1 .....2.....3.....4.....5.....0

Please fill in every box                      HK    China    Japan    Korea    Taiwan

8.6 The exchange rates are a problem for companies exporting from this market                      —    —    —    —    —

8.7 National technical standards are a problem to firms exporting from this country.                      —    —    —    —    —

IX. The Organisation of Marketing Activities in companies of these countries

HK    China    Japan    Korea    Taiwan

9.01 The supplier usually involves only a small number of people in the purchasing process                      —    —    —    —    —

9.02 It is usually clear who influences terms of offering decisions of the supplier                      —    —    —    —    —

9.03 The production engineers generally have a very limited influence on the outcome of the purchasing process                      —    —    —    —    —

9.04 The design engineers generally have a strong influence on the choice of supplier                      —    —    —    —    —

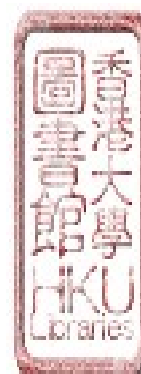
9.05 Purchasing decisions usually follow a formalised procedure                      —    —    —    —    —

9.06 The purchasing staff generally have little discretion when choosing suppliers                      —    —    —    —    —

9.07 There are often conflicts between different departments in the buying company over purchasing matters                      —    —    —    —    —

9.08 The final choice of supplier in these companies is made at a high level in the organisational hierarchy                      —    —    —    —    —

9.09 The purchasers generally have to show their superiors and colleagues that they have negotiated a good price                      —    —    —    —    —



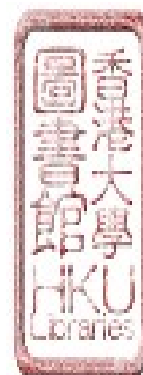
9.10 What do you think makes a buyer in this country take an interest in a new supplier?

Tick the three things you find most important.

	HK	China	Japan	Korea	Taiwan
intensive promotional activities	___	___	___	___	___
good technical service	___	___	___	___	___
good production and delivery capacity	___	___	___	___	___
a technically advanced product	___	___	___	___	___
a wide range of products offered	___	___	___	___	___
consistent product quality	___	___	___	___	___
low price	___	___	___	___	___
production facilities in their country	___	___	___	___	___
introduction by local business people	___	___	___	___	___

9.11 When a seller makes its first approach to a company in this country, which people MUST be contacted (i.e. who must not be bypassed)?

<u>Category</u>	HK	China	Japan	Korea	Taiwan
1. General managers	___	___	___	___	___
2. Financial controllers	___	___	___	___	___
3. Purchasers	___	___	___	___	___
4. Design engineers	___	___	___	___	___
5. Production engineers	___	___	___	___	___
6. Production managers	___	___	___	___	___
7. Marketers	___	___	___	___	___
8. Other (specify) .....	___	___	___	___	___



X. The Balance of Buyer-Seller interactions along the Marketing Strategies Continuum

QUESTION.1. PURCHASER'S PRICING STRATEGIES

Q.1. From the following list of twelve purchasing elements which SIX of these does YOUR COMPANY put most emphasis on ?  
(Please circle only SIX)

- 1.Competitive prices
- 2.Supplier's prompt quotation and response
- 3.Competitive discounts
- 4.Past reputation (value money)
- 5.Trade in allowances
- 6.Personal service
- 7.Longer payment period
- 8.The supplier's reputation in local business circle
- 9.Attractive credit terms
- 10.Personal advice of the supplier
- 11.Special offers or promotion discount
- 12.Reciprocal trade arrangement

QUESTION.2.YOUR PURCHASE PRODUCT STRATEGIES

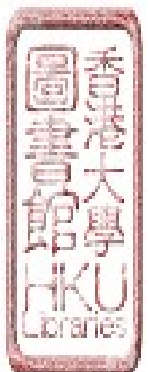
Q.2.From the following list of twelve purchasing' elements which SIX of these does YOUR COMPANY put most emphasis on ?  
(Please circle only SIX)

- 1.Consistent product quality
- 2.Reputation for good quality
- 3.Most product features
- 4.Past reputation with product
- 5.Wide range of products offered
- 6.Personal service
- 7.The most popular Brand Names
- 8.Your overall reputation
- 9.Replacement guarantees
- 10.Trust your supplier
- 11.Technical advice on installation, testing and staff training
- 12.Good honest repair staff

QUESTION.3..DISTRIBUTION STRATEGIES YOU PREFER

Q.3. From the following list of twelve DISTRIBUTION elements which SIX of these does YOUR COMPANY will put most emphasis on ? (Please circle only SIX)

- 1.Good Production and distribution capacity
- 2.Reputation for delivery
- 3.Convenient location of agency
- 4.Your past experience
- 5.Quick distribution ability
- 6.Prompt and helpful response to your complaints
- 7.High inventory levels
- 8.The supplier's reputation in local business circle
- 9.Attractive premises
- 10.Personal advice of other business people
- 11.On time delivery
- 12.Experienced national salesman



QUESTION.4. OUR PROMOTION PREFERENCES TO SUPPLIER'S STRATEGIES

Q.4. From the following list of twelve PROMOTIONS ideas which SIX of these does YOUR COMPANY most respond to ?  
(Please circle only SIX)

- 1 .Year-round advertising campaigns
- 2 .Reputation as an advertiser
- 3 .Seasonal advertising campaigns
- 4 .Past experience of customers
- 5 .Regional Business Exhibition
- 6 .Personal follow up and service offers by supplier
- 7 .Sales campaigns
- 8 .The supplier's overall reputation
- 9 .Publicity campaigns
10. Personal advice by other people in the industry
11. Contribution to community
12. Honest sales staff

QUESTION.5. TYPE OF SALESPERSONS YOU PREFER

Q.5. From the following list of twelve SALESMAN qualities which SIX of these do you think YOU will most respond to ? (Please circle only SIX)

- 1 .Power of persuasion
- 2 .Enthusiasm
- 3 .Determination
- 4 .Personal integrity
- 5 .Business knowledge and technical competence
- 6 .Reliability
- 7 .Initiative
- 8 .Courtesy
- 9 .Industrious
10. Friendliness
11. Obedience
12. Modesty

Question.6. ENCOURAGEMENT OF LONGTERM BUSINESS RELATIONSHIPS

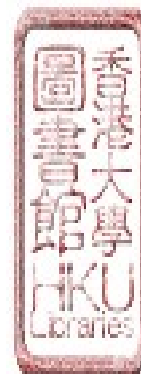
Q.6. Does your company ENCOURAGE LONGTERM business relationships with suppliers ? ( Please tick the most appropriate one)

- ☐ Strongly encourage
- ☐ Encourage
- ☐ Moderately encourage
- ☐ Not important
- ☐ Discourage
- ☐ Don't know

Questions.7. ENCOURAGEMENT OF CLOSE RELATIONSHIPS WITH SUPPLIER

Q.7. Do you personally prefer to have close relationships with the supplier? (Please tick the most appropriate one)

- |  |   |
|--|---|
| <input type="checkbox"/> Yes strongly        | <input type="checkbox"/> Yes moderately |
| <input type="checkbox"/> Not important to me | <input type="checkbox"/> Discourage     |
| <input type="checkbox"/> Don't know          |   |



# QUESTION.8 YOUR PURCHASING PRIORITIES

Q.8. How much weight do you give to the following ?

(Please tick the most appropriate one) High Medium Low

- |  |       |       |       |
|--|-------|-------|-------|
| 1. The fame of the Brands they sell              | _____ | _____ | _____ |
| 2. Technical fit product                         | _____ | _____ | _____ |
| 3. The reputation and recommendation of supplier | _____ | _____ | _____ |
| 4. Reasonable prices/value                       | _____ | _____ | _____ |
| 5. Past trading experience                       | _____ | _____ | _____ |
| 6. Lowest prices                                 | _____ | _____ | _____ |
| 7. Prompt and helpful response to our complaints | _____ | _____ | _____ |
| 8. Written information                           | _____ | _____ | _____ |
| 9. Close relationship with staff                 | _____ | _____ | _____ |
| 10. Extra service                                | _____ | _____ | _____ |
| 11. Longterm relationship with staff             | _____ | _____ | _____ |
| 12. After sales service                          | _____ | _____ | _____ |

# QUESTION.9..INFORMATION AND MARKETING OF THE SUPPLIER

Q.9. How important are the following promotion methods to your purchasing

- |                                       | High  | Medium | Low   |
|---------------------------------------|-------|--------|-------|
| 1. Personal selling of the supplier   | _____ | _____  | _____ |
| 2. Advertising in printed media       | _____ | _____  | _____ |
| 3. Advertising on films, radio        | _____ | _____  | _____ |
| 4. Advertising on T.V.                | _____ | _____  | _____ |
| 5. Sales literature (leaflets etc)    | _____ | _____  | _____ |
| 6. Sales promotions and merchandising | _____ | _____  | _____ |
| 7. Contribution to community          | _____ | _____  | _____ |
| 8. Business Exhibition                | _____ | _____  | _____ |

This is the End Thank You

ONLY IF you wish to be sent a summary of this research do you need to complete this section. Thank you.

Name \_\_\_\_\_  
 Title \_\_\_\_\_  
 Company \_\_\_\_\_  
 Address \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_ Phone \_\_\_\_\_

Thank you for completing this questionnaire, please now return to:-

Mr. Anthony Cheng  
 Level 4,  
 Electrical Industry Training Centre,  
 13, Sun Kwai Street,  
 Kwai Chung, N.T.

